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by

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For mom

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Abstract

Fiscal Policy in an Economically Integrated World

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Eight years after the 2008 Global Financial crisis the global economy continued to muddle through weak economic growth. At the same time elected officials have lashed against the post-war trend toward greater economic integration, as illustrated by the election of Donald Trump in the United States and the United Kingdom's vote to withdraw from the European Union. This dissertation argues that the relationship between economic growth and policies favoring economic integration are deeply intertwined. I argue that trade interdependence played an important role in causing policymakers to roll back expansionary fiscal policies before a robust recovery had taken hold. This anemic economic recovery then increased the policy influence of interest groups with more protectionist policy preferences. This dissertation, therefore, integrates economic interdependence with domestic politics to deepen our understanding of economic policy choices. To this point, however, the international political economy literature remains largely divided with respect to levels of analysis. At the domestic level, researchers continue to analyze domestic preferences and institutions as if they are independent from others states in the global economy; while at the systemic level, researchers tend to analyze relations between states independent from domestic politics. Much of this division is methodological. Until recently, statistical models assumed observations were independently distributed, forcing researchers to assume away interdependence in statistical analyses. This project takes advantage of recent advances in spatial econometrics that help to account for interdependence between units to offer a more complete understanding

of domestic level policies.

Contents

Chapter 1

Introduction

Nationalism, trade protectionism, and overt xenophobia – the developed world has entered an era reminiscent of the 1930s. The upheaval that the world experienced in the 1930s is largely attributed to one fundamental cause: the Great Depression. Following the 2008 financial crisis, however, scholars noted a lack of economic nationalism and extremist politics (Drezner, 2014; Kahler and Lake, 2013). It seemed we would be spared a repeat of the 1930s. But, following a wave of populist electoral successes throughout the developed world a few years after the 2008 crisis, optimistic predictions of the 2010s being fundamentally different from the 1930s may have proved premature.

After the initial deep recession that sparked the Great Depression, industrialized economies experienced weak, albeit in most cases positive, economic growth. For example, by 1933 the recession had ended in the United States, but robust growth did pick up until after World War 2 (Eichengreen, 2014). This long period of dismal performance led the then president of the American Economic Association, Alvin Hansen, to state the possibility that the developed world faced weak growth for the foreseeable future (Hansen, 1939). Thus, the economic context of the 1930s, which provided the fodder for populist political movements, was marked by weak economic growth, or "secular stagnation."

Assuming recessions and stagnant recoveries are generally caused by shortfalls in aggregate demand, economists since Keynes (1936) have noted that governments can enact an expansionary fiscal policy to end recessions and speed up an economic recovery (Borg et al., 2014; Summers, 2015).[1] But policymakers in several countries often do the opposite and enact contractionary fiscal policies in response to recessions and slow recoveries. These policies may have exacerbated economic stagnation, leading to the political upheaval witnessed in both the 1930s and the mid-2010s (Blyth, 2013).

That incumbents would enact such policies is puzzling because elected officials who oversee weak economic growth are generally punished electorally in subsequent elections (Achen and Bartels, 2016). Although fiscal policy is constrained, to some extent, by economic factors, the decision to engage in stimulus or austerity is, at its core, political. Thus to understand the fiscal policy response to recessions and slow recoveries, we must explore the political calculus involved with various fiscal policy choices.

Most research on the politics of the 2008 financial crisis and its aftermath focus on domestic-level factors, and downplay the fact that political decisions, which may appear to be domestically-driven on the surface, are made in the context of a closely integrated global economy (Oatley, 2011). Similarly, theoretical studies of the politics of fiscal policy generally focus on domestic-level factors. But fiscal policy can influence or be influenced by net exports and, therefore, has important international dimensions. This dissertation places economic interdependence at the center of its analysis. I argue that an incorporation of economic interdependence extends our understanding of fiscal policy during economic recessions and recoveries. I also analyze how economic interdependence partially determines how interest groups, with specific policy preferences over a range of

[1]Scholars have looked toward supply side factors, such as population growth and the slowing of technological progress, to explain weak economic growth in the 1930s and 2010s (Hansen, 1939; Gordon, 2016). If this were the case, governments would not easily be able to enact short-term policies to boost supply side growth because of the necessary time lag for something like technological innovation to have an effect on the economy.

issues, gain political influence relative to other interest groups within a country.

The rest of this introduction is organized as follows. First, I briefly explain the economics of fiscal policy, discussing how an expansionary fiscal policy can bring a country back to economic growth. I then discuss the role of trade interdependence. Here, I show why there is a close relationship between fiscal policy and economic interdependence. In this section I also briefly summarize the core chapters of this dissertation.

1.1 The Economics of Fiscal Policy

Fiscal policy is a key tool for policymakers to end recessions and spur recoveries. Scholars using a New Keynesian framework argue that most downturns are caused by negative shocks to aggregate demand. Shocks may result from drops in business or consumer confidence. New Keynesian models suggest that expansionary monetary and fiscal policies can boost aggregate demand and thereby end recessions and speed recoveries. During relatively small negative shocks, monetary policy alone may suffice to bring economies back to robust growth (Krugman, 1998; Summers, 2014). But, as experience in the 1930s and 2010s has demonstrated, recovery is more difficult if aggregate demand falls and interest rates would have to go below zero in order to recover fallen output. With interest rates at or near the zero lower bound, monetary expansion will have little or no effect on aggregate demand. This condition is known as the liquidity trap.

The suggested Keynesian policy response to a liquidity trap is fiscal stimulus with an accommodating monetary policy to offset the rise in interest rates that might otherwise follow an increase in government spending. Even in instances where monetary authorities have room to stimulate the economy – where interest rates are not at the zero lower bound – fiscal policy can assist monetary policy to increase aggregate demand and thus bring about a stronger recovery (Krugman, 1998). Furthermore, recent research shows that

since the late 1990s, equilibrium real interest rates have been trending downward in the developed world (King and Low, 2014; Summers, 2015). With equilibrium interest rates closer to the zero lower bound, monetary policy may continue to be less effective and fiscal policy may need to play a more central role in promoting economic recoveries than in the 1980s and 1990s.

Not all models suggest that expansionary fiscal policies will lead to recovery. Neoclassical, real business cycle models begin with the micro-level assumption that economic agents quickly respond to changes in the environment (Kydland and Prescott, 1982; Plosser, 1989). These models argue that supply side factors, such as shifts in technology, rather than shifts in aggregate demand, are the key source of economic fluctuations.[2] Building on the theory of rational expectations (Lucas, 1976; Muth, 1961), Barro (1989) argues that expansionary fiscal policies will have no positive effect on aggregate demand because economic actors will match government spending with an equivalent increase of private savings to pay for future tax increases required to fund the government's deficits. This theory of "Barro-Ricardian equivalence" implies that expansionary fiscal policies in response to a recession will fail to bring about a recovery and may actually slow the recovery process by hampering the economy's natural rate of adjustment.

Although these competing schools of thought are completely at odds, Rodrik (2015) points out that determining which model best explains a phenomenon depends on the context. Although neoclassical models may do well when explaining several areas of interest – such as an economy's long-term growth – predictions derived from these models have performed rather poorly when explaining events such as the recent financial crisis (Rodrik, 2015, pgs. 102, 137). New Keynesian models, on the other hand, have performed comparatively well in explaining both the recession and slow economic recovery after the 2008 financial crisis. A recent University of Chicago-based survey asked leading

[2]For a more in depth review and critique of real business cycle models see Summers (1986).

economists if the US stimulus policy in response to the global financial crisis reduced unemployment (IGM Forum, 2015).[3] Of those that responded, just 2 percent disagreed with the statement that the policy reduced unemployment. That 2 percent entailed just one respondent, Alberto Alesina, who was a strong champion for austerity in Europe. Therefore, in the context of underemployment – the domain of much of this dissertation – expansionary fiscal policies can most likely promote economic recoveries.

1.2 The Politics of Fiscal Policy

But if there is more or less agreement that fiscal expansions can promote a sustained economic recovery, why do policymakers often resort to austerity measures before a robust recovery has taken place? As previously mentioned, most studies of fiscal policy analyze states as if they are isolated from the international system.[4] Little research outside of the ideational tradition examines how international economic interdependence shapes policy outcomes. Other studies have analyzed budgetary variation in the context of international events, such as wars or large scale economic downturns (Oatley, 2015; Jones et al., 2014), but policy interdependence is not explored as a determinant of budgetary policies. This dissertation seeks to integrate economic interdependence with theories of domestic politics to provide a more systemic explanation for fiscal policy choice during economic recessions and recoveries.

Chapter 2 begins with the observation that several nations responded to the Great Recession of 2008-2009 with a coordinated fiscal stimulus, but then within a year quickly reversed these policies and adopted austerity measures. I suggest that the international dimensions of fiscal policy help to explain this behavior. As a stylized example, if the United States were to engage in a fiscal expansion, at least some of this would result in

[3]The group released a similar survey with similar results in 2012.

[4]See Oatley (2011) and Cohen (2008) for a more in-depth critique of reductionist research designs.

increased imports from Canada, thereby providing a stimulus for Canada. Furthermore, Canada would not have to fund stimulus measures enacted in the United States. This may create incentives for Canada to enact a smaller stimulus in response to a recession than it might otherwise have done. Thus expectations regarding fiscal policies abroad are likely to shape domestic fiscal policies. If a country expects that its major trade partners are going to enact austerity measures, they may be less likely to engage in a stimulus at home out of concern that much of the domestic stimulus will leak abroad. This may lead to an equilibrium where states engage in austerity policies.

The model developed in Chapter 2 suggests that expectations may be formed by observing whether a state's major export markets are in recession or recovering from a recession. The empirical evidence shows that when a state's major export markets are in recession, domestic policymakers may expect states to respond with stimulus policies. However, when a state's export markets are in recovery, austerity policies may be more likely.

But are states likely to respond to recessions with stimulus policies as Chapter 2 implies? Following the 2008 financial crisis, countries such as Estonia and Latvia responded to the recession with austerity measures and the incumbent governments went on to win reelection. Chapter 3, therefore, asks how states respond to recessions. I find that the economic performance of a country's export markets plays a role in determining whether policymakers choose to engage in expansionary or contractionary policies at home. When a state's export markets are performing well, policymakers tend to engage in less expansionary, or even contractionary policies. Under these conditions, I find a positive electoral effect for austerity policies. Conversely, when a state's export markets are performing poorly, policymakers are more likely to engage in fiscal stimulus and, again, may be rewarded at the polls for these policies.

I argue this relationship exists because when a state's export markets are performing

well relative to the domestic economy, exports can pick up slack in the domestic economy – contractionary policies can keep the real exchange rate low, thus making exports more competitive internationally. But if a state's export markets are performing poorly relative to the domestic economy, an export-led recovery is unlikely feasible. Therefore, incumbents with electoral incentives to boost the economy by the next election are more likely to engage in fiscal stimulus. In relation to chapter 2, countries that respond to recessions with austerity tend to be performing quite poorly relative to their export markets. Thus even if these countries were to enact stimulus policies, spillovers from any stimulus would unlikely be sufficient to help other countries escape a recession. Therefore, policymakers may still safely use as a heuristic that states generally respond to recessions with stimulus policies.

The logic of chapters 2 and 3 largely discounts the role of interest groups, instead focusing on the electoral incentives of elected officials. But we know that interest groups affect a broad array of domestic policies (Olson, 1965). Chapter 4 explores how economic interdependence can shape an interest group's ability to influence policy across a wide range of issue areas. Chapter 4 finds that when a state's export markets are performing well, firms in industries most likely to export, or what Frieden (1991, 2014) terms those with "internationally-oriented" preferences, may gain the ability to influence policies over those with more "domestically-oriented" preferences.

Chapter 4 argues that, in democracies, influence for firms may gain influence over a wide range of policies through at least two major channels: revenue and employees. Increased revenue may be used to provide campaign contributions and fund other lobbying efforts. Employers may also motivate their employees to mobilize for policies favorable to the firm. I find that increased growth abroad is associated with a higher proportion of employees employed in industries most likely to export. Similarly, among those most likely to export, I find growth abroad to be associated with increased lobbying.

1.3 Conclusion

This dissertation seeks to explain fiscal policy choice during recession and economic recoveries. This focus is motivated by the fact that fiscal policies, such as austerity, appear to have played a large role in contributing to a weak economic recovery throughout the developed world. This anemic recovery has likely contributed to the rise of populist governments (Blyth, 2013). Thus a deeper understanding fiscal policy choice is important to our understanding of the contemporary international political economy.

Theoretically, this dissertation places economic interdependence at the center of its analysis. To this point, most scholarship on fiscal policy choice tends to ignore international factors, and how these factors may influence a domestic fiscal policy choice. But the economics of fiscal policy clearly show that fiscal policy has clear international elements. By incorporating international factors into the analysis, this dissertation fills an important gap in IPE scholarship.

Chapter 2

From Stimulus to Austerity: Expectations and Economic Interdependence

2.1 Introduction

The developed world may struggle with economic stagnation long into the foreseeable future. Seven years after the 2008 financial crisis, most advanced industrialized economies had yet to recover their pre-crisis growth trend (Blanchard et al., 2015). The social costs of stagnant recoveries following economic downturns can be enormous. Research has linked slow recoveries to the rise of radical right political movements (Blyth, 2013) and public health disasters such as increased depression and suicide rates (Stuckler and Basu, 2013). In several instances, politicians have successfully limited the depth and breadth of recessions with expansionary fiscal policies (Drezner, 2014; Eichengreen, 2014). But rather than maintaining expansionary policies until economic output has reached pre-crisis levels, policymakers have often halted stimulus policies despite having the ability

to maintain deficit spending.[1] Following the 2008 financial crisis, for example, states widely embraced expansionary fiscal policies, only to reverse course and adopt austerity measures while their economies remained weak. Researchers have argued that premature fiscal consolidation further decreases the likelihood that an economy will quickly recover from an economic downturn, thus prolonging anemic economic growth (Blyth, 2013; DeLong and Summers, 2012; Fatás et al., 2015). Given the social and political costs of weak recoveries, why do policymakers often begin fiscal consolidation before a robust recovery has taken hold?

Current theories range from analyzing the material interests of voters and interest groups (Gourevitch, 1986; Walter, 2013) to partisan ideology (Broz, 2013) and the role of domestic institutions to explain fiscal policy outcomes (Alesina and Perotti, 1995).[2] But in most instances, these factors – interests, institutions, and, in several cases, partisan ideology – remained constant as states shifted from stimulus to austerity and cannot, therefore, provide a systematic explanation for these policy changes. Similarly, constructivist research argues that neoclassical ideology explains the widespread embrace of austerity (Ban, 2015; Blyth, 2013; Chwieroth, 2010b; Helgadóttir, 2015). But research in this tradition struggles to explain the early embrace of Keynesian economic policies, which are inconsistent with the neoclassical worldview.

This chapter argues that incumbents' expectations of fiscal policy abroad shape fiscal policy decisions at home. I argue that policymakers form beliefs about policies abroad by considering the domestic politics of various fiscal policies. Domestically, because the state of the economy often predicts an incumbent's electoral fortunes, fiscal expansions may be electorally beneficial because fiscal expansions can boost economic output and reduce unemployment (Bartels, 2014; Chwieroth and Walter, 2014; Hibbs, 2000; Walter,

[1] This ability is largely dependent on debt to GDP ratios and the interest rates governments pay on the their debt.

[2] Also see Kahler and Lake (2013) for several studies on the politics of economic crises.

2013). But fiscal expansions, by definition, increase budget deficits and evidence suggests that, holding the state of the economy constant, budget deficits can harm incumbents on election day (Alesina et al., 1998; Brender and Drazen, 2008; Peltzman, 1992).[3] Taken together, these two sets of findings show that an electoral tension exists between fiscal expansions and fiscal deficits. The empirical relationship between recessions and incumbents losing office suggests that during recessions voters favor output over budget deficits, which may make expansionary policies more likely during recessions. But when the economy grows as the recovery begins, budget deficits gain electoral salience relative to output. The electoral effects of fiscal deficits are likely amplified during the recovery period because recessions tend to result in large accumulations of debt even before accounting for discretionary fiscal policies (Reinhart and Rogoff, 2009). Although these empirical findings are seemingly contradictory – the same voters that favor fiscal expansions may later punish incumbents for budget deficits – the notion of time inconsistent preferences reconciles why voters may have differing policy preferences during recessions and recoveries. But time inconsistent voting is insufficient to explain the speed of the move from stimulus to austerity.

Incumbents likely consider potential fiscal policies abroad because these policies may impact the domestic economy. Expansionary policies generally increase the demand for goods and services produced abroad, resulting in increased imports (Auerbach and Gorodnichenko, 2013; Hebous and Zimmermann, 2013). During the recovery period, incumbents may seek to cut budget deficits and hope that continued growth abroad picks up subsequent slack in domestic demand. Aware of this incentive, other countries may follow suit by enacting contractionary policies of their own because they are unlikely to favor funding expansionary policies that are muted by international spillovers. Even

[3]These studies do not argue in favor of a link between contractionary policies and growth, such as Alesina and Ardagna (2009).

if a single country would prefer to continue expansionary policies until the economy recovered, the resulting increase in imports would dampen the stimulative effect of these policies. Thus during the recovery period states end up in a prisoner's dilemma type of situation where the individually optimal policy is to enact contractionary policies, even if states collectively may be better off maintaining expansionary policies.

These dynamics are analogous to those seen in scenarios involving public goods. Generally, actors will contribute to public goods if the cost of further contribution is less than the expected benefit from the good. The domestic benefits from fiscal expansions abroad – unlike threshold goods such as lighthouses – vary depending on the size of the fiscal expansion. If actors expect others not to provide to the public good then the expected benefit of the good will fall accordingly and thus make contribution less likely. This chapter argues that if a state expects others to engage in fiscal contractions, the expected benefit of a fiscal expansion at home falls. Expansionary policies then become less likely as the expected benefit falls.

I test this argument using cyclically adjusted budget balance data for 33 OECD countries between 2000 and 2012.[4] I then calculate the trade weighted proportion of each country's export markets that are either in a recession or a recovery and use this as an indicator of fiscal policy expectations. But policymakers may set fiscal policies to shape trade flows. I account for this potential reverse causality by employing a unique instrumental variables approach, using the minimum distance between countries to instrument for trade flows. The empirical results provide convincing evidence that whether a state's trade partners are in a recession or in a recovery strongly predicts a state's fiscal policy in ways consistent with this chapter's argument. The empirical results suggest that international factors play an important yet under-appreciated role in our understanding

[4]This amounts to all OECD member countries except Estonia, which is removed from the sample due to no data for the dependent variable.

of budgetary policies.

The remainder of this chapter is organized as follows. Part two discusses how the current literature explains variation in fiscal policy outcomes. Part three outlines how fiscal policy spillovers can affect the strategic calculus of fiscal policy decisions. Part four discusses the data and methods used to test the argument. Part five discusses the results. Part six concludes with implications of this chapter's results.

2.2 Budgetary Politics

Theories of economic voting argue that economic downturns tend to result in incumbents losing office (Bartels, 2014; Chwieroth and Walter, 2014; Hibbs, 2000). If incumbent politicians or parties seek reelection we would expect them to enact policies most favorable to their reelection prospects. Following the 2008 financial crisis most countries engaged in Keynesian deficit spending – at least for a time (Drezner, 2014). Evidence suggests that incumbents in democratic states that enacted larger stimulus policies were more likely to be reelected simply because the economies in these states improved faster than those that did not enact stimulus policies (Bartels, 2014). Ideology only played a peripheral role in determining states' fiscal policy decisions (Bartels, 2014). In Germany, for example, Angela Merkel's government enacted one of Europe's largest stimulus programs as a percentage of GDP (Blyth, 2013; Prasad and Sorkin, 2009). Regardless of ideology, therefore, incumbents initially followed Keynesian policy prescriptions, presumably under the belief that expansionary policies would be most likely to lead to a recovery and, hence, their reelection. Although economists continue to debate the merits of fiscal policy in promoting economic recovery from recessions, incumbents seem to believe that fiscal policy is an effective tool to boost economic growth.[5]

[5]See supplementary file 1 for a brief overview of the economic debate on fiscal policy.

Soon after the recovery process began, however, states quickly moved away from expansionary policies. This policy shift may have been supported by the idea that austerity policies would be expansionary (Alesina and Ardagna, 2009; Guajardo et al., 2014). Scholars working in the ideational tradition have pointed toward the power of economic ideas in shaping policy (Blyth, 2013; Chwieroth, 2010b; Helgadóttir, 2015). When these ideas are supported by politically influential actors they become more likely to be adopted. Influential actors, such as those in the financial sector, supported the retrenchment of the state in the economy and were also eager to lay blame on the state for economic woes (Blyth, 2013; Stiglitz, 2016). But as Blyth (2013, pg. 54) notes, the widespread embrace of fiscal stimulus in 2008 ran against neoclassical ideologies that favor state retrenchment.

States did not turn away from stimulus policies until the recovery had begun in several large economies such as the United States, Germany, and the United Kingdom. Although Keynesian policies lasted for only about a year, that year marked a point where most developed economies were facing severe recessions and the largest economies were facing their deepest downturn of the global financial crisis. By 2010 recoveries had begun throughout the OECD. Using this chapter's definition of recession, defined in more detail below, only seven of the 33 countries in the sample spent at least one quarter of 2010 in recession – the remaining countries were no longer in recession by 2010. Only Greece saw no quarter of growth in 2010. By 2010, in other words, the deepest part of the 2008 recession had largely ended. Only when the recovery period began did states begin to cut budget deficits.

At the very least, this time frame suggests that regardless of ideology, policymakers may shift their worldviews on an ad hoc basis – adopting Keynesian-inspired policies during recessions, but otherwise adopting more neoclassical-inspired policies. Although ideas play an important role in economic policy, especially over the long run, the large

stimulus policies enacted during the depth of the crisis were inconsistent with the long-term ideational trend toward a smaller state throughout the developed world. During the depth of the crisis, policymakers acted in ways consistent with their electoral interests but against their purported ideologies. After the recovery began, policymakers embraced austerity, a policy more in line with the ideologies that many had long promoted. This inconsistency between political interests and ideational viewpoints suggests that ideas alone do note suffice to explain these more short-term economic policy fluctuations – even if ideas do well to explain long term policy trends.

Scholars often credit the G-20 for the coordinated stimulus in response to the crisis. This coordination has been credited for helping the world to avoid another Great Depression and maintaining an open global system (Drezner, 2014). But in 2010, with economic growth still weak, G-20 governments agreed to reduce budget deficits to half of their 2010 levels by 2013 (Calmes and Chan, 2010). Given that a weak economic recovery may be just as damaging to the prospects for an open system as a deep recession (Blyth, 2013), the G-20 proved unable to sustain a coordinated stimulus in order to maintain a stable global economic system.

The following section argues that the incentives of individual states lined up to facilitate expansionary policies during the recession, only to then promote contractionary policies during the recovery. By this argument, the G-20 would have been much more likely to succeed in pushing for a coordinated stimulus at the depth of the crisis than during the recovery. Indeed, we might have observed the seemingly coordinated move from stimulus to austerity regardless of the G-20's efforts.

2.3 Spillovers and Time Inconsistent Voters

Political economy research on fiscal policy generally focuses on domestic-level factors. But fiscal policy has strong international dimensions because it impacts the demand for imports and exports, regardless of the exchange rate regime. In the Mundell-Fleming model a fiscal expansion may increase output in the domestic economy. But without an accommodating monetary policy, this expansion drives up interest rates, which puts pressure on the exchange rate to appreciate. If the currency is floating this appreciation causes exports to fall and imports to rise – thus offering stimulative effects abroad. Monetary authorities can accommodate a fiscal expansion at home by expanding the money supply, thus keeping interest rates steady. As this accommodating policy may stop the exchange rate from appreciating, a fiscal expansion will increase aggregate demand in the domestic economy, which will boost demand for both domestic and foreign goods and services. Alternatively, if the exchange rate is fixed, a fiscal stimulus will generally boost domestic aggregate demand, again to the benefit of trade partners who will likely see an increase in demand for their goods and services. These spillovers, or leakages, have long been acknowledged in research on international economics (Kindleberger, 1949) and were brought up in the context of the 2008 financial crisis by the OECD (2009).

But are these spillovers large enough to affect a state's strategic calculus? Policymakers in the United States clearly considered the spillover effects when passing the American Recovery and Reinvestment Act in response to the 2008 financial crisis. Worked into the bill was a "buy America" provision, which stipulated that iron, steel, and manufactured inputs to be used in stimulus-funded projects had to be produced in the United States, with some exceptions. As Representatives Pete Visclosky and Tim Murphy wrote to Congress on behalf of the Congressional Steel Caucus:

"Recently, under the American Recovery and Reinvestment Act, it was an-

> nounced that certain renewable energy tax credits allowed American companies to use tax credits to import manufactured goods. Specifically, an American company stated that it would form a joint venture with a Chinese company to build a 36,000 acre wind farm in Texas. That project would have utilized – and still could – Chinese wind turbines, creating over 2,000 jobs in China" (Visclosky, 2010).

Noting that the US stimulus project could create jobs in China, this statement provides evidence that policymakers are aware of how expansionary fiscal policies may boost employment abroad to the detriment of jobs at home. These considerations are not without merit – much research in economics shows that the effects of fiscal policy spillovers from one country have substantive impacts on domestic output elsewhere.[6] Recent research has shown that the fiscal multiplier – how much a $1 increase in government spending increases total output – is larger during downturns and weak recoveries than during periods of economic growth (Auerbach and Gorodnichenko, 2012). Similarly, the multiplier effect from fiscal policy spillovers between two countries is also larger if both countries have unemployment above the "natural" rate – or if they are in recessions or the early stages of recoveries (Auerbach and Gorodnichenko, 2013). Recent studies of the eurozone have shown that, because of this larger multiplier, countries that coordinate fiscal policies in response to a common economic shock, would each have to enact a substantially smaller stimulus policy to recoup the fall in aggregate demand than if they were to enact uncoordinated policies (Auerbach and Gorodnichenko, 2013; Hebous and Zimmermann, 2013). Therefore, the economic effects of fiscal policy spillovers are substantial.

Because fiscal expansions must eventually be financed, they are costly to enact and

[6]For estimates of the size of these spillover effects on GDP, see OECD (2009). Evidence of fiscal policy spillovers also exists across regions in the United States (Dupor and McCrory, 2014).

maintain. Recessions, especially those with roots in the banking and financial sector, almost always result in large budget deficits (Reinhart and Rogoff, 2009). Sovereign debt accumulates during recessions simply because governments receive less tax revenue as incomes fall while also having to provide more social services, such as unemployment benefits. These debts accumulate even before taking into account policies such as bank bailouts and other discretionary budgetary policies that further add to a government's debt load. But stimulus policies in foreign markets do not need to be financed domestically. If politicians seek to maximize the benefits of fiscal policies while minimizing the costs, they may prefer actors abroad to enact stimulus policies rather than enacting a domestic stimulus at home. Thus politicians may be expected to consider the policies most likely to be enacted abroad. But what policies are politicians abroad most likely to enact?

Following the 2008 financial crisis, states that enacted more expansionary policies increased their likelihood of reelection simply because these policies boosted the domestic economy (Bartels, 2014). Therefore, incumbents seem to benefit electorally from fiscal expansions following a recession. But if electoral pressures encourage one state to automatically respond to a recession with a large fiscal expansion, its trade partners may consider free riding on the spillovers of these policies and not enact an expansion of their own. However, as more countries enter into recession, the benefits of domestic fiscal expansions grow relative to freeriding on fiscal expansions abroad for several reasons.

First, as already noted, fiscal policy spillovers and the larger fiscal multiplier during recessions suggest that each nation would have to enact a smaller fiscal expansion to recoup the decline in aggregate demand caused by a recession than if only one state were to enact a stimulus (Auerbach and Gorodnichenko, 2013). In the language of public goods, this suggests that states would have to contribute less in order to receive a larger benefit during weak economic growth than during periods of expansion. Second, if a state

is in a recession, spillovers from other states' fiscal policies are unlikely to be sufficient to bring a state out of a recession. If a state's export markets are also in recession, fiscal expansions enacted in an effort to regain losses in aggregate demand are unlikely to sufficiently spillover to bring foreign economies out of recession. Third, if a state is not in recession, downturns abroad may push the country toward a recession, or at the very least weaken the domestic economy. This could lead election-oriented incumbents to preempt a recession at home with more expansionary policies. Thus even if states do not uniformly respond to domestic recessions with stimulus policies – as they do not – policymakers abroad may still engage in expansionary policies of their own to avoid also falling into recession. Therefore, policymakers are unlikely to try to benefit from fiscal policy spillovers when their trade partners are in recession and may be more likely to pass stimulus policies of their own.

But the incentives to maintain expansionary fiscal policies may prove short lived. Expansionary policies become less politically sustainable as the debt servicing costs grow. Although the accumulation of debt may be necessary to spur a recovery – and premature austerity may end up *increasing* debt to GDP ratios if GDP falls faster than debt – opposition parties can use these increasing debt loads to label the incumbent party as fiscally irresponsible.[7] These labels may have substantial electoral effects. Empirical evidence shows that budget deficits, with the state of the economy held constant, harms incumbents' reelection prospects (Alesina et al., 1998; Brender and Drazen, 2008; Peltzman, 1992). Brender and Drazen (2008) not only find that budget deficits over the length of an incumbent's term reduce their likelihood of reelection, but improved fiscal balances increase the likelihood of being reelected. Therefore, incumbents focused on reelection are likely to opposed large budget deficits throughout their term and may actively seek

[7]There is clearly a limit on the amount of debt a government can run before investors begin demanding much higher rates of interest on debt, but it is unclear where this limit is.

to reduce accumulated debts.

The empirical findings on the relationship between stimulus policies, budget deficits, and reelection, although supported in a wide range of studies, seem to be contradictory: why would voters punish incumbents for both downturns and any budget deficits built up to escape downturns? The time inconsistency problem reconciles this apparent contradiction. During recessions, unemployment tends to rise as does uncertainty regarding future employment, leading voters to prefer policies designed to boost employment. But as the economy begins to recover, unemployment generally falls. Under the context of falling unemployment voters may move toward favoring lower budget deficits under the premise that taxes will be lower in the future. In both contexts voters care primarily about their economic well being, but what they prefer during recessions differs from what they prefer during recoveries.[8]

Although reducing budget deficits comes with the trade-off of potentially dampening recovery efforts, recent research suggests that voters may care more about the rate of change in the economy over the previous year rather than the absolute level of GDP or growth over the full length of an incumbent's term (Achen and Bartels, 2016; Bartels, 2014; Huber et al., 2012). Thus on the domestic level, incumbents may fairly presume that they have better electoral prospects when the economy is growing, albeit slowly, than when it is in recession. With better electoral prospects incumbents may succumb to pressure to begin rolling back these expansionary policies in an effort to gain any electoral benefits from fiscal consolidation efforts. On the international level, as economic performance abroad improves, incumbents may hope that growth abroad will help to support their own domestic recovery and, at least potentially, offset their own contractionary policies. Although it remains uncertain whether voters place more total emphasis

[8]Much research has shown that the time inconsistency problem causes commitment problems for leaders (Broz, 2002; Fearon, 1995). A broad literature in behavioral economics also shows that individuals face similar time inconsistencies in various consumption or savings decisions (Thaler and Sunstein, 2008).

on budget deficits than on growth during recoveries, evidence suggests that the role of budget deficits becomes more salient *relative* to growth during recoveries than during recessions (Achen and Bartels, 2016). Taking advantage of growth abroad may allow incumbents to gain electoral support through both economic growth and budget deficit reduction.

But policymakers abroad are likely aware of these incentives. Because stimulus money leaks abroad, the positive effect is muted if other countries do not reciprocate with expansionary policies of their own. Even if an incumbent would prefer to maintain expansionary policies, others would have an incentive to free ride on the spillovers from these policies. Unlike during recessions, therefore, policymakers end up in a prisoner's dilemma during the recovery period where incentives push toward contractionary policies.

The above logic is developed formally in supplementary file 2. This argument offers two key testable implications. First, when an incumbent believes states abroad will enact expansionary policies, they are more likely to enact fiscal expansions of their own. Incumbents are likely to expect policymakers abroad to pursue fiscal expansions if these countries are in recession. Even if states do not uniformly respond to recessions with expansionary policies, an expansion at home may prevent recessions abroad from leading the domestic economy into recession. Thus a heuristic that countries will respond to recessions with fiscal expansions may still prove politically beneficial for policymakers. This leads to the following hypothesis:

Hypothesis 1: *Domestic fiscal policies become more expansionary as more of a state's trade partners are in recession.*

Second, after recessions have ended, the electoral benefits of expansionary policies are likely to decline through two channels. First, the opposition is likely to use any large buildup of debt as evidence of bad governance. Because time inconsistent voters may agree with these accusations, election-oriented politicians have reason to seek to mitigate

the effect of these accusations. Third, as the economy begins to grow the electoral incentive to further boost growth falls – weak growth is less electorally harmful than economic decline. Both of these pressures are likely to become more salient during the recovery period, where large government debts have already accumulated and electoral incentives to end the recession have abated. Aware of these incentives, domestic policymakers may expect officials abroad to begin cutting budget deficits. If a state's trade partners cut spending, stimulus dollars at home will likely leak abroad in the form of increased spending on imports, making fiscal stimulus at home less effective and thus less attractive for domestic policymakers. This leads to a second hypothesis:

Hypothesis 2: *Domestic fiscal policies become more contractionary as more of a state's trade partners are in economic recovery.*

2.4 Data and Methods

The empirical analysis focuses on OECD countries from 2000 to 2012. Although OECD states trade with, and likely consider the fiscal policies of, states outside the OECD, I limit the analysis to OECD countries for several reasons. First is data availability. Second is that the theory developed in this chapter considers how electoral politics shape expectations of fiscal policy. The adjustment process may work differently for non-democracies. The post 2000 time period is one where fiscal policy is likely to have played a more central role in policymakers' strategic calculus as compared with earlier years. Fiscal policy must play a more central role relative to monetary policy in promoting a recovery when real interest rates approach the zero lower bound; real interest rates have been trending downward since the late 1990s (King and Low, 2014; Summers, 2015). But, because the time frame of analysis is relatively short, I also extend the time period from 1980 to 2012 as a robustness check. The results, which are available in the

supplementary files, largely hold.

This chapter posits that various stages of the business cycle in more interdependent markets affect policymakers' strategic fiscal policy calculations. This requires distinguishing between recession and recovery. I use the popular definition of a recession as two consecutive quarters of negative GDP growth. This is similar to the method used by Reinhart and Rogoff (2014), who use annual changes of GDP per capita to define recessions and recoveries. Following Kannan et al. (2014) I define the recovery period as lasting until either real GDP returns to its prerecession level or the economy falls back into another recession. After an economy returns to its prerecession level, or the economy enters a period of expansion and the recovery is complete. Although focusing on GDP may ignore other important aspects of the economy, economists have long noted the negative correlation between economic growth and unemployment, which is often termed "Okun's Law."

2.4.1 Capturing Interdependence

Fiscal policy spillovers – and the incentive for policymakers to consider fiscal policy strategically – are likely more pronounced between states with higher levels of bilateral trade. Bilateral trade is the most appropriate domain for this study's empirical analysis because the effects of fiscal policy spillovers are hypothesized to be transmitted through their impact on imports and exports. Although bilateral trade data may be treated as dyadic, the assumption that each dyad is independent may lead to biased statistical inferences.[9] I use spatial econometrics to account for these interdependencies.

The IMF direction of trade statistics provides data for total exports and imports of merchandise between countries. These data are in matrix form, where each cell ij indicates the US dollar amount of exports from country i to country j. I subset these

[9]See Cranmer and Desmarais (ming) for a more in-depth critique of dyadic research designs.

data to OECD countries, which make up this chapter's analysis. To calculate the level of bilateral trade between countries i and j I take the sum of the direction of trade matrix and its transpose. Because bilateral trade likely becomes more salient as it grows proportional to a country's GDP, I divide each country i's level of bilateral trade with all countries j by country i's GDP.[10] This matrix is defined as the connectivity matrix, W. Because the amount of trade between countries varies with time, this matrix is in the form of an NT by NT block diagonal, where each block represents a year and zeros make up the main diagonal. This construction also captures any shifts in trade flows between countries over time. In other words, if trade relations among countries shift between year t and year $t+1$, the matrix will automatically account for such changes.

I use a spatial lag model to capture, and control for, the direct effects of interdependence. Spatial lag models are defined as the weighted average of the dependent variable in all countries j to which country i connects (Chaudoin et al., 2015; Elkins and Simmons, 2005; Ward and Gleditsch, 2008). This spatial lag variable controls for the effects that a state's trade partners' fiscal policies have on domestic fiscal policy decisions. This variable also captures time dynamics and the effect of one state acting before another. To calculate this variable, I row standardize W, which creates a weight, and multiply W by a vector B, which is the dependent variable for every state in every year. This variable is denoted as *Spatial Primary Balance*. In the remainder of this section, italics denote each variable's label in the regression output tables.

I use a similar technique to measure the effects of economic performance abroad. First, I measure the length of time, in quarters, each state spends in economic recession and recovery for each year in the sample. I then put these data in an $N \times 2$ matrix and multiply it by the above, row standardized connectivity matrix W. This produces an $N \times 2$ matrix, where the two vectors in this matrix contain the weighted average of the

[10]Both bilateral trade and GDP are measured in US dollars.

time spent in economic recession and recovery, respectively, for all states j with which state i trades. Additional countries in recession, or recovery, will increase the value of these variables. But increasing the length of time a country is in recession or recovery will also increase the values of these variables. Therefore, as a robustness check, I include a dichotomous variable for each year a country experiences a recession or a recovery, rather than the discrete variable that calculates the number of quarters each country has consecutively spent in recession and recovery. Using a dichotomous variable serves to calculate country i's trade weighted *proportion* of trade partners in either recession or recovery. The estimates associated with these variables are denoted as either *Recession Abroad* or *Recovery Abroad* with a distinction between whether the variable is referring to the total number of quarters or the trade weighted proportion of a state's trade partners in recession or recovery.

2.4.2 Dependent Variable

To measure fiscal policies one cannot simply analyze changes in the budget balance, or revenues and expenditures, because recessions tend to deepen fiscal deficits even if states are enacting contractionary fiscal policies. For example, revenues may fall even if states increase taxes in response to recessions. To measure fiscal policy I use the cyclically adjusted *Primary Balance*, which adjusts for business cycle fluctuations. Fiscal expansions are associated with lower values and fiscal contractions are associated with higher values of the cyclically adjusted primary balance. Data for this variable come from the IMF Fiscal Monitor. I lead this variable one period because fiscal policies have time lags before they go into effect (Borg et al., 2014). Changes to taxes or spending enacted in one year will largely be seen in the following year's budget balance. For example, in the United States the fiscal year begins in October. Factors that effect budget decisions

will occur before October, but their impact on the budget will mostly be observed the following year.

Although fiscal expansions may be obtained through increasing spending or decreasing taxes, both will have the net result of a fall in the adjusted primary balance. The opposite is true for fiscal contractions. Several domains for government spending exist, but all result in increased budget deficits. Empirical macroeconomic models that are often used to analyze the effects of fiscal policies tend to focus on the aggregate fiscal policy outcomes rather than on the specific type of fiscal policies enacted. For example, a recent study by IMF researchers that surveyed the literature on fiscal consolidation shows that the cyclically adjusted primary balance is among the most common measures for fiscal policy (Escolano et al., 2014).[11] A more detailed measure of fiscal policy, which includes changes in taxes versus spending may be desirable, but this chapter is interested in the process that determines the overall fiscal responses to recessions and recoveries abroad, not the composition of these policies. Furthermore, existing data on expenditures and revenues are not cyclically adjusted, meaning these measures may fluctuate due to the business cycle rather than explicit policy choices.

2.4.3 Control Variables

States may face constraints on their fiscal policy decisions. Because fiscal policy is the main tool used to stabilize the accumulation of debt (Alesina and Ardagna, 2009; Reinhart and Rogoff, 2010), I include a variable for the gross *Debt to GDP Ratio* of each country in the sample. This variable also accounts for the fact that countries with surpluses can more easily enact expansionary policies than those with large budget deficits (Cameron, 2012). But several rich countries, notably Japan, have long maintained large

[11] Only a small minority of the papers surveyed in Escolano et al. (2014) distinguish between taxes and spending in their measures of fiscal consolidation.

budget deficits without having to pay high interest rates. Therefore, I include a variable for long term *Interest Rate Spreads* relative to the United States. This follows from a previous study that showed that long term interest rate spreads were the best predictor of austerity in Europe following the 2008 financial crisis (Armingeon, 2012). Data for these variables come from the IMF World Economic Outlook.

To control for the effects of wealthier countries being less constrained in their fiscal policy decisions than poorer countries (Rudra, 2002; Wibbels, 2006), I include a variable for logged *GDP Per Capita*. The level of *Trade Openness* also likely affect fiscal policy decisions. Countries that are more closed to trade are less likely to be impacted by fiscal policy spillovers. This variable is operationalized as total imports plus exports as a percentage of GDP.

Inflation also affects fiscal policy decisions because government spending may further increase consumer prices. Countries facing inflationary pressure may therefore be less likely to enact fiscal stimulus. To control for this potential confounding relationship I include a variable for the annual change in the inflation rate. Furthermore, central banks may seek to increase the money supply as a method of boosting the economy, thus serving as a substitute for fiscal policy. To control for this effect I include a variable for *M2*. Both of these variables come from the World Bank.

I also control for potentially confounding political variables. The *Eurozone* imposes constraints on fiscal policies in member states. Therefore, I include a dummy variable where each country in the eurozone takes the value of one for each year they are members.[12]

The partisan ideology of a government on a traditional left-right continuum may be associated with budget deficits. For instance, Broz (2013) finds that right parties are

[12]This variable is time invariant for most countries over the time period in the sample. It therefore is absorbed into the country fixed effects. However, the robustness check that extends the sample provides insignificant estimates for this variable.

associated with larger budget deficits than left parties. Therefore, I include a variable – *Partisan Orientation of Exec.* – for the partisan orientation of the executive where 1 is right, 2 is center, and 3 is left.

I include a variable, *Vetoes*, that captures the number of veto players in each country's political system. The number of veto players is negatively associated with the ability of governments to pass legislation (Solingen, 2012; Tsebelis, 1995). However, the effect of vetoes also depends on the level of fragmentation within the government – if one party controls most of the government veto players are unlikely to have much of an effect. Therefore, I include a variable, *Legislative Frac.*, that captures the proportion of legislative seats held by the governing party. Larger values indicate that the governing party controls are larger portion of the legislature.

Stemming from the political business cycles literature (Hibbs, 1977), one may argue that the number of years a leader has in office before an election is negatively associated with budget deficits. In most democracies, elections are endogenously determined; leaders are likely to strategically call elections Kayser (2005). Leaders that have been in office longer may strategically call early elections, or try to delay an election until the economy improves. To capture the possible effect of politicians strategically considering the timing of their elections, I include a variable for the number of years remaining until the subsequent election for the executive as well as a variable for the number of years the executive has held office. The data for these political variables come from an updated version of Beck et al. (2001). These variables are labeled *Years to Next Exec. Election* and *Years Exec. in Office* respectively. To control for a time trend I include a cubic polynomial, although I do not present the results for each time variable. Summary statistics for these variables are provided in the Appendix.

An alternative explanation for this chapter's hypothesis is that recessions abroad may cause domestic recessions. This may lead politicians to enact fiscal expansions to recover

from a recession emanating from abroad. Thus recessions abroad have an indirect effect on domestic fiscal policy. To control for this possibility I include a variable for the annual percent change in *Real GDP*. If a recession abroad caused a domestic recession – which would be observed through a change in real GDP – then we would expect this variable to pick up the effect of a recession, or a recovery, abroad on domestic fiscal policy and the estimated effect of a recession abroad would tend toward zero (Achen, 2005). I also include a control variable for the number of quarters the domestic economy has spent in a recession and a recovery for each year, these are labeled *Domestic Recession* and *Domestic Recovery* in the table of regression output.

2.5 Empirical Technique and Results

By definition, economic recoveries cannot exist without recessions. Because of this causal relationship, I estimate separate models for hypotheses one and two. I lead the dependent variable one period because budgets passed in one year do not generally affect primary balances until the next year, as discussed above. Formally, I estimate the following model:

$$B_{i,t+1} = \alpha_i + \gamma W_{i,t} B_{i,t} + \rho W_{i,t} R_{i,t} + \sum_{k=1}^{n} \beta_k X_{k,i,t} + \varepsilon_{i,t} \tag{2.1}$$

Where i indexes country and t indexes year. The dependent variable, B, is the cyclically adjusted primary balance. The first parameter, α, captures the time invariant, country-specific effect to account for unit-specific heterogeneity. W is a spatial weight matrix that captures the level of bilateral trade between each country for each year.[13] B denotes each country's cyclically adjusted primary balance in year t. R is a variable for recessions or recoveries abroad. X is a vector of control variables, with k indexing the n

[13]Recall this is constructed as an $NT \times NT$ block matrix where each block represents time t.

control variables.

However, a potential problem with using trade weighted economic factors to predict fiscal policy is potential reverse causality. Fiscal policies may be used as a tool to foster trade between countries – indeed, this chapter's argument is predicated on this premise. In other words, W may be endogenous. To account for this problem I use a two stage least squares instrumental variables approach.

I use the minimum distance between countries to instrument for trade between them. A well known model in international trade, the gravity model, shows that trade is inversely proportional to geographic distance (Anderson, 2011; Feyrer, 2009). Geography causes countries to trade more, but it is highly unlikely that trade, fiscal policy, or other potentially omitted economic variables cause countries to be geographically close. Data for minimum distance between states come from Weidmann et al. (2010).

In the first stage of the regression I use a matrix of minimum distance between states, D, to instrument for trade between states, W. Although distance between states is time invariant, the minimum distance matrix, D, is matrix-multiplied by R, which captures either the trade weighted duration or trade weighted proportion state i's trade partners are either in recession or recovery.[14] Because R is time variant the vectors produced by multiplying $D \times R$ are also time variant. Therefore, distance can be used as an instrument for trade and the model can still be estimated with country fixed effects. The results for the first stage regression are shown in supplementary file 3.

Table 2.1 presents the results. Models 5 through 8 are reduced-form specifications of models 1 through 4,, as recommended by Achen (2005). The reduced-form specification also serves to reduce the amount of missing data.[15]

Recall that hypothesis one predicts that recessions abroad will be associated with

[14]In other words, R is an $n \times 4$ matrix, but each variable, or column, is estimated in a separate model.
[15]This table, and those in the Appendix are constructed using modifications from Hlavac (2015).

Table 2.1: Fiscal Policy as a Function of Recessions and Recoveries Abroad

	Dependent variable:							
	Primary Balance$_{t+1}$							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Primary Balance	0.685***	0.688***	0.684***	0.706***	0.661***	0.668***	0.653***	0.682***
	(0.046)	(0.047)	(0.044)	(0.051)	(0.037)	(0.039)	(0.037)	(0.039)
Spatial Primary Balance	−0.218	0.366**	−0.223	0.424***	−0.113	0.318***	−0.120	0.329***
	(0.154)	(0.167)	(0.155)	(0.157)	(0.084)	(0.085)	(0.084)	(0.103)
Recession Abroad (Weighted Total Quarters)	−0.393***				−0.221***			
	(0.136)				(0.048)			
Recovery Abroad (Weighted Total Quarters)		0.714***				0.475***		
		(0.122)				(0.076)		
Recession Abroad (Weighted Proportion)			−1.931***				−1.433***	
			(0.424)				(0.194)	
Recovery Abroad (Weighted Proportion)				3.712***				2.009***
				(0.669)				(0.552)
Change Real GDP	−0.071	−0.040	−0.095**	0.089**				
	(0.048)	(0.043)	(0.047)	(0.044)				
Domestic Recession (Total Quarters)	0.124	0.208**	0.138	0.165*				
	(0.099)	(0.090)	(0.096)	(0.098)				
Domestic Recovery (Total Quarters)	−0.037	−0.052	−0.054	−0.041				
	(0.033)	(0.035)	(0.034)	(0.029)				
Trade Openness	0.012	0.020*	0.017	0.021**				
	(0.012)	(0.011)	(0.011)	(0.009)				
Inflation	−0.014	0.076	0.022	0.143**				
	(0.057)	(0.060)	(0.058)	(0.064)				
M2	−0.011	−0.010	−0.011	−0.012*				
	(0.008)	(0.007)	(0.008)	(0.007)				
GDP Per Capita (Logged)	0.217	0.041	0.263	0.683				
	(0.788)	(0.861)	(0.740)	(0.892)				
Debt to GDP Ratio	0.037***	0.027**	0.034***	0.043***				
	(0.012)	(0.012)	(0.011)	(0.014)				
Interest Rate Spread	0.196**	0.212**	0.158	0.214**				
	(0.099)	(0.095)	(0.097)	(0.102)				
Partisan Orientation of Exec.	−0.0001	0.014	−0.003	0.030				
	(0.111)	(0.101)	(0.107)	(0.095)				
Years Exec. in Office	0.099*	0.075	0.094*	0.088				
	(0.055)	(0.054)	(0.055)	(0.053)				
Years to Next Exec. Election	0.083	0.095*	0.092*	0.119**				
	(0.056)	(0.053)	(0.052)	(0.058)				
Vetoes	0.179	0.137	0.151	0.161				
	(0.142)	(0.132)	(0.141)	(0.108)				
Legislative Frac.	0.539	−0.335	0.505	−1.311				
	(1.592)	(1.712)	(1.529)	(1.593)				
Observations	344	344	344	344	415	415	415	415
R^2	0.672	0.655	0.690	0.669	0.589	0.587	0.604	0.594
Adjusted R^2	0.574	0.560	0.590	0.572	0.534	0.532	0.547	0.539

Note: *p<0.1; **p<0.05; ***p<0.01
Cluster robust standard errors in parentheses

expansionary fiscal policies, or have a negative effect on the cyclically adjusted primary balance. Hypothesis two predicts that recoveries abroad will be associated with more contractionary fiscal policies, observed as a positive effect on the cyclically adjusted primary balance.

The models provide strong support for the first hypothesis. The estimates for the number of a country's trade partners that are in recession are negative and statistically significant in every model. The size of the coefficients suggest that these results are also substantively significant. Model one shows that as the trade weighted average number of quarters a country's trade partners spend in recession increases by one quarter, the domestic cyclically adjusted primary balance falls by .393 as a percent of GDP.[16] In other words, countries tend to enact larger fiscal stimulus policies when their trade partners spend more time in recessions. This is the relationship we would expect if countries were more likely to enact expansionary fiscal policies if they expected their trade partners to also enact expansionary policies.

The models also provide consistent support for the second hypothesis. The estimates for the number of a country's export market, weighted by trade flows, that are in recovery are positive and statistically significant in every model. These results are also substantively significant. Model two shows that increasing the trade-weighted number of quarters a country's trade partners spend in economic recovery by one quarter is associated with a 0.714 percent increase in the cyclically adjusted budget balance. This suggests that more contractionary fiscal policies are associated with a larger number of a state's trade partners in economic recovery. This effect holds independent of the ability of states to spend countercyclically, measured by debt to GDP ratios and interest rate spreads, which suggests that this result is unlikely an artifact of a state having run up large budget deficits during a recession.

[16]Recall that the trade weighted value is predicted by the first stage equation.

Comparing the substantive effect of different variables, Model 1 shows that a one standard deviation increase in interest rate spreads is associated with a 0.486 percent increase in a state's cyclically adjusted budget balance.[17] The sign and significance of this effect is consistent with previous scholarship (Armingeon, 2012; Cameron, 2012). In contrast, a one standard deviation increase in the length of time a country's trade partners spend in recession is associated with a 0.422 percent decrease in a state's cyclically adjusted primary balance – nearly enough to offset the effect of interest rate spreads. From the estimates in Model 2, a one standard deviation increase in the interest rate spread is associated with a 0.526 increase in the cyclically adjusted primary balance as a percentage of GDP, while a one standard deviation increase in the length of time a country's trade partners spend in recovery is associated with a 1.007 percent increase in the cyclically adjusted primary balance in the following year – nearly twice the effect. Therefore, the effect of a state's trade partners in recession or recovery plays a substantively strong role compared with the interest that governments pay on their debt.

These results are unlikely to be capturing the fact that the Great Recession began with states enacting an expansionary fiscal policy and then simply began to slowly unwind these policies. All of the models control for the length of time a state spends in both recession and recovery as well as the annual percent change in real GDP. The inclusion of a cubic polynomial controls for other broad trends from stimulus to austerity across OECD countries in response to the 2008 financial crisis. Furthermore, the results are unlikely due to the fact that countries are importing recessions from abroad, as the results hold despite controlling for the number of quarters states spends in recession and recovery as well as their change in real GDP.

Overall the results provide strong support for this chapter's argument. Domestic fiscal policies become more expansionary as more of a state's trade partners are in a recession.

[17]Standard deviations, along with other summary statistics, are available in Appendix 1.

Domestic fiscal policies become contractionary as more of a state's trade partners enter a recovery. This relationship is consistent with the argument that policymakers use the state of economies abroad as a heuristic to infer, and strategically respond to, the likely fiscal policies in these economies. Even if states abroad do not uniformly respond to economic recessions with stimulus policies, behaving as if they do may be the electorally optimal response for domestic policymakers. The empirical results suggest that domestic fiscal policy is, in part, a function of the expected fiscal policies abroad.

2.6 Conclusion

Since the end of the Great Recession, anemic economic recoveries have wreaked havoc on the livelihoods of millions of people throughout the developed world. Economic stagnation, which may be defined as an unusually long period of recovery, threatens the developed world with a future of low-growth, similar to the experience of Japan over the last 25 years. Despite these social costs, policymakers have generally responded to these slow recoveries with contractionary fiscal policies that may well have worsened the prospect of a sustained recovery (DeLong and Summers, 2012; Fatás et al., 2015). This chapter introduces the argument that fiscal policy spillovers lead states to strategically consider international implications of fiscal policy. Despite incentives that may encourage short-term expansionary policies during recessions, fiscal policy spillovers push policies to become more contractionary during the recovery process.

This chapter makes several important contributions. The first is methodological. Although research using spatial econometrics has become much more common, little, if any, directly confronts the problem of a potentially endogenous weight matrix. Franzese and Hays (2007), for example, discuss the use of instrumental variables when the right hand side regressors other than the weight matrix are endogenous, but not when the

weight matrix is itself potentially a function of the dependent variable. The approach in this chapter extends a technique that is widely used in traditional statistical analysis to spatial econometrics.

This chapter also provides three contributions to our understanding of budgetary politics. First, to this point, most research concentrates on the short-term policy responses to recessions. Little research extends the analysis to consider the political implications of fiscal policy later in the business cycle. In addition to recessions, this chapter also analyzes fiscal policy in response to recoveries. Second, this chapter further considers the international determinants of fiscal policy decisions. This international dimension not only helps explain why policymakers may prematurely end expansionary fiscal policies, but also provides insights into why policymakers responded to the Great Recession with coordinated fiscal expansions. Third, economists have been seriously considering the premise that the developed world is facing "secular stagnation" – long term slow economic growth (Eggertsson and Mehrotra, 2014; Gordon, 2016; Summers, 2013, 2015; Teulings and Baldwin, 2014). Slow recoveries have amplified this trend, the term of which was first coined by Alvin Hansen in the 1930s to explain the slow recovery from the Great Depression. Given that cooperation between nations can likely help avert this undesirable outcome, political science and international relations has much to contribute to the subject, but, to this point, the field has been mute.

This chapter also offers implications for theories of fiscal policy coordination. By simply assuming policymakers are election-oriented and that spillovers lead them to strategically consider the likely fiscal policies abroad, we may observe an equilibrium where states engage in harmonious fiscal expansions during recessions without explicit coordination. These same assumptions lead to an equilibrium where states roll back these fiscal expansions after a recession has subsided, but before a robust recovery has taken hold. This chapter offers a novel explanation for states may move from stimulus to austerity

before a robust recovery had taken hold.

Scholars have noted that anemic economic growth, or stagnant recoveries, has in the past pushed countries away from an open, liberal order (Blyth, 2013). Indeed, spillovers are less of an issue if states enact high trade barriers. Although weak recoveries are likely undesirable for incumbent politicians seeking reelection – and for the prospects of an open economic system – strategic interaction between states may lead to an equilibrium where states enact contractionary fiscal policies during the recovery period. Because expectations of contractionary policies abroad lead to this equilibrium, manipulating these expectations may allow states to maintain fiscal expansions throughout the recovery process. If fiscal policy authorities can credibly commit to maintaining unemployment under a maximum level then leaders in other states may come to expect that their trade partners will maintain fiscal expansions during the recovery process when unemployment remains relatively high. This may lead states to simultaneously enact fiscal expansions, and simultaneous fiscal expansions provide the most stimulus per dollar spent (Auerbach and Gorodnichenko, 2013). Therefore, shifting the expectations of fiscal policy abroad may lead to a sustained, robust economic recovery.

2.7 Summary Statistics of Variables in Regression

The summary statistics below are for the variables in Table 2.1. The variables with the subscript $_{pred}$ denote the predicted values for these variables based on models one through four in Table 2.3.

Table 2.2

Statistic	N	Mean	St. Dev.	Min	Max
Primary Balance	448	−2.546	3.287	−19.106	5.876
Spatial Primary Balance	448	−2.911	1.302	−8.357	0.379
Recession Abroad (Total Quarters)	476	0.845	1.138	0.0002	4.860
Recession Abroad (Total Quarters)$_{pred}$	346	0.79	1.075	−0.604	4.104
Recovery Abroad (Total Quarters)	476	1.303	1.586	0.000	6.326
Recovery Abroad (Total Quarters)$_{pred}$	346	1.242	1.411	−1.048	5.509
Recession Abroad (Proportion)	476	0.281	0.318	0.0001	0.982
Recession Abroad (Proportion)$_{pred}$	346	0.275	0.293	−0.216	0.987
Recovery Abroad (Proportion)	476	0.266	0.301	0.000	0.978
Recovery Abroad (Proportion)$_{pred}$	346	0.256	0.285	−0.213	0.942
Change Real GDP	475	2.235	3.103	−14.738	10.494
Domestic Recession	476	0.920	1.935	0	16
Domestic Recovery	476	1.134	2.590	0	17
Trade Openness	466	91.293	53.296	20.258	346.372
Inflation	466	3.147	4.573	−4.480	54.915
M2	451	8.584	12.640	−25.343	121.924
Eurozone	476	0.370	0.483	0	1
GDP Per Capita (Log)	476	10.157	0.716	8.025	11.627
Debt to GDP	474	57.631	38.191	3.646	243.203
Interest Rate Spread	448	−1.184	2.480	−12.859	4.829
Partisan Orientation of Exec.	428	1.769	1.045	0	3
Years Exec. in Office	441	1.791	1.246	0	5
Years to Next Exec. Election	429	3.923	2.691	1	17
Vetoes	441	4.029	1.145	2	8
Legislative Frac.	429	0.551	0.096	0.255	0.891

Formal Model

To illustrate the logic of this chapter's argument, I develop a simple game theoretic model using a Bayesian-Nash solution concept. The model here assumes both parties act simultaneously and independently. In reality states do not enact fiscal policy simultaneously. But, partially due to time lags, credibly committing to fiscal policies is difficult;

states may announce a fiscal policy only to change it later (Borg et al., 2014). If one state announces a fiscal policy before another, it simply adds information for other states and they can adjust their prior probabilities of another state's fiscal policy, which is consistent with the model. The empirical analysis more thoroughly addresses time lags. Although expansionary and contractionary policies vary by level, I make the simplifying assumption that each state can either increase (+) or decrease (−) budget deficits. These will either result in a positive or negative budget balance. Figure 2.1 provides an extensive form version of this game. With two players, player A and player B.

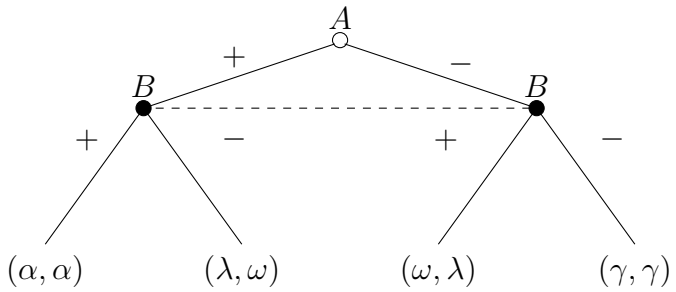


Figure 2.1: Extensive Form Game

The payoffs associated with each parameter are as follows:

$\alpha \equiv$ stimulus + spillovers − balance $\quad \lambda \equiv$ stimulus − spillovers − balance
$\omega \equiv$ spillovers + balance $\quad \gamma \equiv$ balance

If player A enacts an expansion they receive benefits through the form of a stimulus, but lose utility in the form of a decreased budget balance. If player B also enacts a stimulus, then player A will receive a higher payoff through spillovers from B. If player B reduces budget deficits then player A's payoff will decrease as its stimulus leaks abroad and it does not receive offsetting spillovers from B. Note that without the presence of spillovers, the game would not explicitly account for the policies enacted abroad.

This set up slightly deviates from the traditional prisoner's dilemma. A prisoner's dilemma assumes $\omega > \alpha > \gamma > \lambda$. But, as noted above, there are large benefits for

cooperation during economic crises. Thus if we allow $\alpha > \omega$ – which, after solving the inequality for the domestic stimulus, implies that the payoff to the domestic stimulus is greater than two times the payoff of reducing the budget deficit – there is a Bayesian-Nash equilibrium with both players increasing budget deficits and both players believing the probability that the other player increases budget deficits is between zero and one. This is proven as follows.

Let both players hold prior beliefs that the other player will increase budget deficits $(+)$ with probability P. Then each player will enact fiscal expansions $(+)$ in equilibrium if the expected utility of stimulus policies given probability P is greater than the expected utility of fiscal contractions $(-)$ given probability P. Formally, both players will enact stimulus policies $(+)$ in equilibrium if

$$EU_i(+|P) \geq EU_i(-|P) \tag{2.2}$$

Where expected utilities are defined as:

$$EU_i(+|P) = P\alpha + \lambda(1 - P) \tag{2.3}$$

$$EU_i(-|P) = P\omega + \gamma(1 - P) \tag{2.4}$$

Plugging 4 and 5 into 2.2 and solving for P yields

$$P \geq \frac{\gamma - \lambda}{\alpha - \omega + \gamma - \lambda} \tag{2.5}$$

Because $\alpha > \omega$ by assumption then the numerator in 2.5 is less than the denominator, which implies that $P < 1$. As long as $\gamma > \lambda$, which is also true by assumption, then

$P > 0$.[18] Therefore, there is a Bayesian-Nash equilibrium where both players enact fiscal expansions.

However, P may be so large such that we rarely observe both players spending in equilibrium. But the equilibrium value of P depends on the values of the parameters $\alpha, \omega, \gamma, \lambda$. First order conditions show the effect of a marginal increase in these parameters on P.

$$\frac{\partial P}{\partial \alpha} = -\frac{\gamma - \lambda}{(\alpha + \gamma - \lambda - \omega)^2} \tag{2.6}$$

$$\frac{\partial P}{\partial \omega} = \frac{\gamma - \lambda}{(\alpha + \gamma - \lambda - \omega)^2} \tag{2.7}$$

$$\frac{\partial P}{\partial \lambda} = -\frac{\alpha - \omega}{(\alpha + \gamma - \lambda - \omega)^2} \tag{2.8}$$

$$\frac{\partial P}{\partial \gamma} = \frac{\alpha - \omega}{(\alpha + \gamma - \lambda - \omega)^2} \tag{2.9}$$

The signs on the first order conditions show that P is decreasing in α and λ while P is increasing in γ and ω. The negative sign on α shows that as the payoff associated with cooperating increases, each country can assign a lower prior probability that the other country will enact fiscal expansions and still enact a fiscal expansion in equilibrium. As the benefits of cooperating rise, or the payoffs associated with stimulus policies increase, an equilibrium where both countries increase budget deficits becomes more likely. But as the payoffs associated with expansionary policies fall, a country will need to have a larger prior belief that the other country will enact a stimulus in order for both to increase

[18] $\gamma > \lambda$ implies that the payoff to the domestic stimulus minus the spillovers abroad is greater than two times the payoff to an improved budget balance. If an improved budget balance had a higher payoff than the domestic stimulus minus the spillovers, we would not expect a country to spend in equilibrium.

budget deficits in equilibrium.

Similarly, the positive signs on γ and ω show that when the payoffs associated with reducing budget deficits increase, a country will need to assign a higher prior probability that the other country will pass expansionary policies in order to also enact fiscal expansions in equilibrium. When the payoff to increasing budget deficits falls such that $\alpha = \omega$ the game approaches a traditional prisoner's dilemma where after solving 2.2 for P,

$$P \geq \frac{\gamma - \lambda}{\gamma - \lambda} \Rightarrow P = 1 \tag{2.10}$$

Because a probability must be between zero and one P here must equal 1. Thus a state will be indifferent between increasing and decreasing budget deficits in equilibrium only if its prior belief that the other state will increase budget deficits equals one. If $\omega > \alpha$ the game is a traditional prisoner's dilemma and there is no Bayesian-Nash equilibrium such that both countries spend.[19]

[19]This also assumes that $\gamma > \lambda$, which implies higher benefits to contractionary policies relative to expansionary policies.

2.8 First Stage of 2SLS

In Table 2.3, the *distance* weighted independent variables are instruments to predict the *trade* weighted dependent variables. For example, in model 1 the dependent variable is the trade weighted average total number of quarters a state's trade partners spend in recession. For model 2 the dependent variable is the trade weighted total number of quarters a state's trade partners spend in recovery. The first stage of the regression is estimated:

$$\widehat{W_{i,t}R_{i,t}} = \alpha_i + \gamma D_{i,t}B_{i,t} + \rho D_{i,t}S_{i,t} + \sum_{k=1}^{n} \beta_k X_{k,i,t} + \varepsilon_{i,t} \tag{2.11}$$

Because recession and recovery are estimated in separate models, $\widehat{W_{i,t}R_{i,t}}$, is an $n \times 1$ vector in each model. The dependent variables in Table 2.3 are the following:

Models	*Dependent Variable*
1, 5	Recession abroad (trade weighted, total quarters)
2, 6	Recovery abroad (trade weighted, total quarters)
3, 7	Recession abroad (trade weighted proportion)
4, 8	Recovery abroad (trade weighted proportion)

Table 2.3: First Stage of 2SLS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Primary Balance	0.002	0.021	−0.001	0.003	0.032**	0.018	0.005	0.004
	(0.014)	(0.027)	(0.005)	(0.004)	(0.013)	(0.022)	(0.004)	(0.003)
Spatial Primary Balance	0.043	−0.156*	0.024*	−0.045***	0.107***	−0.118*	0.028***	−0.045***
	(0.037)	(0.088)	(0.013)	(0.014)	(0.029)	(0.067)	(0.009)	(0.010)
Recession Abroad (Distance Weighted Total Quarters)	0.994***				1.128***			
	(0.045)				(0.034)			
Recovery Abroad (Distance Weighted Total Quarters)		1.131***				1.257***		
		(0.106)				(0.092)		
Recession Abroad (Distance Weighted Proportion)			1.032***				1.189***	
			(0.060)				(0.043)	
Recovery Abroad (Distance Weighted Proportion)				0.953***				0.976***
				(0.070)				(0.051)
Change Real GDP	−0.032*	0.037	−0.016***	−0.001				
	(0.017)	(0.029)	(0.006)	(0.005)				
Domestic Recession (Total Quarters)	0.103***	−0.135***	0.023***	−0.015**				
	(0.023)	(0.045)	(0.009)	(0.007)				
Domestic Recovery (Total Quarters)	−0.030**	0.042*	−0.014***	0.004				
	(0.013)	(0.025)	(0.005)	(0.004)				
Trade Openness	−0.001	−0.007	0.001	−0.001				
	(0.003)	(0.006)	(0.001)	(0.001)				
Inflation	−0.004	−0.031	0.007	−0.009				
	(0.022)	(0.043)	(0.008)	(0.007)				
M2	−0.001	−0.007	−0.0004	−0.001				
	(0.002)	(0.004)	(0.001)	(0.001)				
GDP Per Capita (Log)	0.116	−0.453	0.014	−0.019				
	(0.266)	(0.511)	(0.096)	(0.080)				
Debt to GDP Ratio	−0.002	0.013**	−0.002**	0.001				
	(0.003)	(0.005)	(0.001)	(0.001)				
Interest Rate Spread	0.013	0.023	−0.002	0.009				
	(0.020)	(0.038)	(0.007)	(0.006)				
Partisan Orientation of Exec.	−0.028	−0.044	−0.008	−0.005				
	(0.031)	(0.060)	(0.011)	(0.009)				
Years Exec. in Office	0.005	0.045**	0.0001	0.007**				
	(0.012)	(0.022)	(0.004)	(0.003)				
Years to Next Exec. Election	0.017	0.050	0.011	0.010				
	(0.022)	(0.041)	(0.008)	(0.007)				
Vetoes	0.050	0.100	−0.007	0.006				
	(0.042)	(0.080)	(0.015)	(0.013)				
Legislative Frac.	0.686	0.292	0.180	0.040				
	(0.460)	(0.875)	(0.167)	(0.140)				
Observations	346	346	346	346	448	448	448	448
R^2	0.878	0.763	0.801	0.845	0.792	0.696	0.724	0.805
Adjusted R^2	0.751	0.652	0.685	0.723	0.723	0.636	0.661	0.734

Note: *p<0.1; **p<0.05; ***p<0.01
Standard errors in parentheses

Robustness Checks

Time Period

Table 2.4 extends the time period in Table 2.1 to 1980-2012. Due to substantial missing data for the dependent variable the number of observations does not dramatically increase. Nonetheless all of the results hold except for the reduced form version of the proportion of countries abroad in a recovery (Model 8). Although the sign is as expected it is now above the threshold for statistical significance.

Table 2.4: Results Extending Time Period

	Dependent variable:							
	Primary Balance$_{t+1}$							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Primary Balance	0.752***	0.790***	0.749***	0.796***	0.723***	0.745***	0.708***	0.745***
	(0.043)	(0.045)	(0.042)	(0.047)	(0.042)	(0.041)	(0.042)	(0.044)
Spatial Primary Balance	−0.102	0.088	−0.157**	0.061	−0.052	0.163***	−0.104	0.065
	(0.078)	(0.097)	(0.076)	(0.096)	(0.062)	(0.061)	(0.067)	(0.064)
Recession Abroad (Weighted Total Quarters)	−0.526***				−0.306***			
	(0.120)				(0.052)			
Recovery Abroad (Weighted Total Quarters)		0.261***				0.324***		
		(0.082)				(0.070)		
Recession Abroad (Weighted Proportion)			−2.907***				−2.074***	
			(0.446)				(0.263)	
Recovery Abroad (Weighted Proportion)				0.815**				0.421
				(0.368)				(0.418)
Change Real GDP	−0.069	0.003	−0.113**	0.031				
	(0.042)	(0.039)	(0.048)	(0.035)				
Domestic Recession (Total Quarters)	0.043	−0.028	0.078	−0.053				
	(0.096)	(0.093)	(0.090)	(0.091)				
Domestic Recovery	−0.063*	−0.052*	−0.093***	−0.038				
	(0.032)	(0.031)	(0.035)	(0.030)				
Trade Openness	0.0003	−0.004	0.009	−0.005				
	(0.010)	(0.010)	(0.009)	(0.010)				
Inflation	−0.007	0.033	0.003	0.033				
	(0.040)	(0.042)	(0.040)	(0.044)				
M2	0.001	−0.002	−0.001	−0.003				
	(0.006)	(0.006)	(0.006)	(0.006)				
Eurozone	−0.475	−0.449	−0.566	−0.416				
	(0.380)	(0.401)	(0.410)	(0.403)				
GDP Per Capita (Log)	−1.456***	−1.266***	−1.168**	−1.330***				
	(0.497)	(0.477)	(0.460)	(0.493)				
Debt to GDP	0.034***	0.037***	0.031***	0.040***				
	(0.010)	(0.012)	(0.010)	(0.012)				
Interest Rate Spread	0.069	0.092	0.050	0.087				
	(0.060)	(0.063)	(0.063)	(0.064)				
Partisan Orientation of Exec.	−0.043	−0.031	−0.057	−0.025				
	(0.092)	(0.095)	(0.086)	(0.098)				
Years Exec. in Office	0.055	0.072	0.052	0.073				
	(0.044)	(0.044)	(0.045)	(0.045)				
Years to Next Exec. Election	0.028	0.054	0.030	0.058				
	(0.048)	(0.050)	(0.048)	(0.052)				
Vetoes	0.091	0.097	0.052	0.101				
	(0.101)	(0.097)	(0.110)	(0.097)				
Legislative Frac.	1.101	0.182	1.431	−0.066				
	(0.996)	(1.000)	(1.042)	(1.020)				
Observations	465	465	465	465	666	666	666	666
R^2	0.682	0.671	0.684	0.668	0.608	0.600	0.604	0.595
Adjusted R^2	0.607	0.597	0.609	0.595	0.572	0.565	0.568	0.560

Note: *p<0.1; **p<0.05; ***p<0.01
Cluster robust standard errors in parentheses

Fixed Effects and Lagged Dependent Variable

Scholars in other disciplines often point out that including fixed effects and a lagged dependent variable in a single model violates the strict exogeneity assumption and should, therefore, be avoided (Angrist and Pischke, 2008, pgs. 243-247). But models that include both fixed effects and lagged dependent variables are common in political science and especially international relations. Table 2.1 follows this norm. To account for this problem, I use the spatial lagged dependent variable to instrument for the lagged dependent variable, thus removing the lagged dependent variable from the model. Table 2.5 replicates Table 2.1 but uses the spatial primary balance as an instrument for the primary balance at time t. All of the main results from Table 2.1 hold in Table 2.5.

Table 2.5: Results Correcting for FE and LDV (2000 - 2012)

	Dependent variable:							
	Primary Balance$_{t+1}$							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Primary Balance	0.231*	1.468***	0.239*	2.085***	0.478***	1.130***	0.492***	1.560***
	(0.132)	(0.206)	(0.129)	(0.361)	(0.059)	(0.119)	(0.055)	(0.222)
Recession Abroad (Weighted Total Quarters)	−0.533***				−0.351***			
	(0.191)				(0.055)			
Recovery Abroad (Weighted Total Quarters)		0.771***				0.523***		
		(0.152)				(0.085)		
Recession Abroad (Weighted Proportion)			−2.232***				−1.554***	
			(0.562)				(0.204)	
Recovery Abroad (Weighted Proportion)				5.556***				3.728***
				(1.346)				(0.746)
Change Real GDP	0.007	−0.234***	−0.005	−0.207				
	(0.060)	(0.087)	(0.056)	(0.127)				
Domestic Recession (Total Quarters)	0.261	0.020	0.264*	−0.134				
	(0.160)	(0.130)	(0.153)	(0.204)				
Domestic Recovery (Total Quarters)	−0.102**	0.041	−0.116**	0.111				
	(0.050)	(0.048)	(0.049)	(0.086)				
Trade Openness	0.028	−0.006	0.033**	−0.019				
	(0.017)	(0.013)	(0.016)	(0.023)				
Inflation	−0.060	0.155	−0.015	0.344*				
	(0.075)	(0.113)	(0.082)	(0.187)				
M2	−0.004	−0.019*	−0.005	−0.028				
	(0.010)	(0.011)	(0.010)	(0.019)				
GDP Per Capita (Log)	−1.427	2.837**	−1.339	5.833**				
	(1.243)	(1.188)	(1.192)	(2.255)				
Debt to GDP Ratio	0.013	0.063***	0.011	0.108***				
	(0.015)	(0.017)	(0.014)	(0.024)				
Interest Rate Spread	0.216**	0.166*	0.176**	0.132				
	(0.087)	(0.092)	(0.086)	(0.132)				
Partisan Orientation of Exec.	−0.126	0.220	−0.124	0.398				
	(0.185)	(0.144)	(0.182)	(0.261)				
Years Exec. in Office	0.078	0.099	0.076	0.122				
	(0.058)	(0.068)	(0.057)	(0.102)				
Years to Next Exec. Election	0.073	0.102	0.087	0.141				
	(0.060)	(0.076)	(0.055)	(0.117)				
Vetoes	0.352	−0.157	0.314	−0.355				
	(0.230)	(0.140)	(0.227)	(0.298)				
Legislative Frac.	1.988	−2.501	1.811	−5.702				
	(2.179)	(2.291)	(2.089)	(3.473)				
Observations	344	344	344	344	415	415	415	415
R^2	0.558	0.594	0.581	0.536	0.568	0.566	0.588	0.535
Adjusted R^2	0.479	0.510	0.498	0.460	0.516	0.514	0.534	0.486

Note: *p<0.1; **p<0.05; ***p<0.01
Cluster robust standard errors in parentheses

Table 2.6 extends the previous table, which corrects for the inclusion of fixed effects and a lagged dependent variable, to 1980. The main results are statistically indistinguishable from Table 2.4. However, the level of p-value for the weighted proportion of a state's trade partners in recovery (Model 8) now equals .1, just above the threshold for marginal statistical significance.

Table 2.6: Results Correcting for FE and LDV (1980 - 2012)

	Dependent variable:							
	Primary Balance$_{t+1}$							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Primary Balance	0.525***	0.968***	0.398***	0.981***	0.601***	0.979***	0.543***	0.868***
	(0.080)	(0.054)	(0.106)	(0.054)	(0.057)	(0.059)	(0.066)	(0.044)
Recession Abroad (Weighted Total Quarters)	−0.669***				−0.450***			
	(0.148)				(0.063)			
Recovery Abroad (Weighted Total Quarters)		0.292***				0.342***		
		(0.072)				(0.070)		
Recession Abroad (Weighted Proportion)			−3.707***				−2.314***	
			(0.590)				(0.307)	
Recovery Abroad (Weighted Proportion)				1.204***				0.614
				(0.373)				(0.373)
Change Real GDP	−0.055	−0.029	−0.091*	0.007				
	(0.042)	(0.045)	(0.048)	(0.043)				
Domestic Recession	0.107	−0.053	0.172	−0.079				
	(0.115)	(0.082)	(0.120)	(0.081)				
Domestic Recovery	−0.108***	−0.026	−0.167***	−0.015				
	(0.040)	(0.031)	(0.053)	(0.032)				
Trade Openness	0.008	−0.009	0.021*	−0.009				
	(0.012)	(0.009)	(0.013)	(0.009)				
Inflation	−0.026	0.047	−0.022	0.055				
	(0.037)	(0.046)	(0.040)	(0.050)				
M2	0.005	−0.004	0.005	−0.006				
	(0.007)	(0.006)	(0.008)	(0.006)				
Eurozone	−0.202	−0.699**	−0.151	−0.674**				
	(0.552)	(0.309)	(0.728)	(0.321)				
GDP Per Capita (Log)	−2.391***	−0.447	−2.567***	−0.440				
	(0.623)	(0.544)	(0.675)	(0.548)				
Debt to GDP	0.023*	0.045***	0.013	0.048***				
	(0.013)	(0.011)	(0.014)	(0.011)				
Interest Rate Spread	0.091	0.073	0.081	0.071				
	(0.061)	(0.063)	(0.067)	(0.065)				
Partisan Orientation of Exec.	−0.123	0.030	−0.184	0.036				
	(0.116)	(0.078)	(0.127)	(0.081)				
Years Exec. in Office	0.057	0.067	0.057	0.070				
	(0.046)	(0.046)	(0.050)	(0.047)				
Years to Next Exec. Election	0.025	0.051	0.029	0.058				
	(0.045)	(0.052)	(0.048)	(0.055)				
Vetoes	0.127	0.066	0.098	0.073				
	(0.120)	(0.089)	(0.146)	(0.091)				
Legislative Frac	1.734	−0.143	2.379**	−0.522				
	(1.084)	(1.108)	(1.202)	(1.123)				
Observations	465	465	465	465	666	666	666	666
R^2	0.657	0.664	0.599	0.660	0.599	0.596	0.578	0.593
Adjusted R^2	0.586	0.593	0.535	0.589	0.565	0.562	0.545	0.559

Note: *p<0.1; **p<0.05; ***p<0.01
Cluster robust standard errors in parentheses

Missing Data

The results in all of the above analyses used listwise deletion to account for missing data. As a further robustness check for the results provided in Table 2.1, Table 2.7 uses multiple imputation to account for missing data over the time period 2000-2012. I used 20 imputations using the Amelia R package (Honaker et al., 2011). This increased the number of observations from 344 in models one through four and 415 in models five through eight to 476 (an increase of 132 and 61 observations, respectively). All of the main results hold.

Table 2.7: Results with Multiple Imputation

	Dependent variable:							
	Primary Balance$_{t+1}$							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Primary Balance	0.625***	0.635***	0.632***	0.645***	0.645***	0.657***	0.643***	0.667***
	(0.068)	(0.069)	(0.069)	(0.074)	(0.057)	(0.056)	(0.057)	(0.058)
Spatial Primary Balance	−0.095	0.374**	−0.071	0.362**	−0.133	0.283**	−0.122	0.279
	(0.157)	(0.176)	(0.160)	(0.177)	(0.111)	(0.143)	(0.112)	(0.173)
Recession Abroad (Weighted Total Quarters)	−0.508***				−0.332***			
	(0.127)				(0.066)			
Recovery Abroad (Weighted Total Quarters)		0.542***				0.442***		
		(0.139)				(0.117)		
Recession Abroad (Weighted Proportion)			−2.067***				−1.459***	
			(0.442)				(0.260)	
Recovery Abroad (Weighted Proportion)				2.46***				1.779**
				(0.761)				(0.759)
Change Real GDP	−0.09	−0.043	−0.093	0.031				
	(0.060)	(0.054)	(0.060)	(0.054)				
Domestic Recession (Total Quarters)	0.071	0.061	0.072	0.008				
	(0.103)	(0.104)	(0.100)	(0.112)				
Domestic Recovery (Total Quarters)	−0.036	−0.051	−0.049	−0.035				
	(0.042)	(0.039)	(0.042)	(0.038)				
Trade Openness	0.009	0.011	0.011	0.012				
	(0.009)	(0.009)	(0.009)	(0.008)				
Inflation	−0.034	0.022	−0.037	0.036				
	(0.074)	(0.075)	(0.075)	(0.080)				
M2	−0.008	−0.009	−0.01	−0.01				
	(0.009)	(0.009)	(0.009)	(0.009)				
GDP Per Capita (Logged)	−0.553	−0.494	−0.465	0.062				
	(0.930)	(0.962)	(0.926)	(0.964)				
Debt to GDP Ratio	0.027*	0.027*	0.025*	0.035**				
	(0.014)	(0.015)	(0.015)	(0.015)				
Interest Rate Spread	0.087	0.124	0.057	0.127				
	(0.095)	(0.091)	(0.097)	(0.092)				
Partisan Orientation of Exec.	−0.023	−0.042	−0.032	−0.031				
	(0.124)	(0.116)	(0.122)	(0.124)				
Years Exec. in Office	0.069	0.07	0.07	0.082*				
	(0.052)	(0.050)	(0.051)	(0.051)				
Years to Next Exec. Election	0.089	0.104	0.103	0.116				
	(0.067)	(0.064)	(0.065)	(0.066)				
Vetoes	0.153	0.038	0.114	0.059				
	(0.130)	(0.127)	(0.128)	(0.116)				
Legislative Frac.	0.297	−0.55	0.285	−1.136				
	(1.672)	(1.719)	(1.642)	(1.747)				
Observations	476	476	476	476	476	476	476	476
R^2	0.588	0.579	0.598	0.59	0.526	0.527	0.538	0.532
Adjusted R^2	0.515	0.507	0.524	0.516	0.478	0.479	0.489	0.484

Note: *p<0.1; **p<0.05; ***p<0.01
Cluster robust standard errors in parentheses

Chapter 3

When is Austerity Electorally Expansionary?

3.1 Introduction

If the state of the economy largely drives voter choice, then we would expect policymakers to be punished electorally for austerity, which typically reduces economic growth, at least in the short term (Achen and Bartels, 2016; Bartels, 2014; Hibbs, 2000). But incumbents have enacted austerity in response to recessions and then gone on to win reelection (Arias and Stasavage, 2016; Walter, 2016). This contradiction between theory and observation has led scholars to question the utility of the economic voting model (Achen and Bartels, 2016; Arias and Stasavage, 2016; Frank, 2007). This theoretical shortcoming, however, may be a result of a failure to sufficiently account for the international dimensions of fiscal policy. After incorporating these factors, this chapter finds that the economic voting model provides a strong explanation for both the varying fiscal policy responses to recessions and the electoral effects of these policies.

This chapter argues that a country's rate of economic growth relative to its main

export markets largely shapes fiscal policy choices. If a state's major export markets are experiencing high rates of growth relative to the domestic economy, incumbents may push for austerity – or at least smaller fiscal expansions – and allow growth abroad to boost the domestic economy through increased exports. Increased exports may allow incumbents to oversee the end of a recession while keeping budget deficits to a minimum. But if a country's export markets are performing poorly relative to the domestic economy, an export-led recovery is likely to prove unfeasible. With weak demand abroad incumbents are likely to enact larger fiscal expansions and to tolerate higher budget deficits.

I test this argument with two different empirical analyses of 34 OECD countries.[1] To test the argument that the fiscal policy response to recessions is conditional on the performance of a country's export markets relative to the domestic economy, I analyze recessions across the OECD from 1980 to 2012. To test the electoral impact of these conditional fiscal policy responses, I analyze elections in OECD countries in the aftermath of the 2008 global financial crisis. Taken together, the argument and empirical results suggest that international factors play an important yet under-appreciated role in our understanding of both budgetary policies and economic voting. The findings show that austerity may, in fact, be help incumbents at the polls when a state's export markets are performing well relative to the domestic economy.

The rest of this chapter is organized as follows. Part two reviews the literature on the relationship between fiscal policy and electoral outcomes. Part three argues that electorally-oriented incumbents are likely to set fiscal policies conditional on the rate of economic growth abroad. Part four tests the observable implications of this chapter's argument. Part five concludes.

[1] A full list of these countries is included in Appendix A.

3.2 Fiscal Policy and Electoral Outcomes

Fiscal policy, along with monetary policy, is the most potent tool policymakers have to influence the economy (Akerlof et al., 2014). The ability to shape economic output has led to much research analyzing how policymakers may use these policies for their electoral benefit (Hibbs, 1977).[2] Theories of political business cycles and economic voting generally assume policymakers will be prone to enact expansionary fiscal and monetary policies, which may lead to long-term macroeconomic problems. This has led to efforts to "tie incumbents' hands" by devolving monetary policy to independent central banks and to balanced budget amendments in countries' constitutions (Bisin et al., 2015; Broz, 2002). But empirically fiscal policy is hardly uniformly expansionary, even in response to recessions when theory would predict expansionary policies to become more likely. Furthermore, in some cases, policymakers have responded to recessions with contractionary measures and then been rewarded at the polls with reelection. Thus it remains unclear why election-oriented policymakers would respond to economic recessions with fiscal policies ranging from tight contractions to loose expansions.

Existing explanations for how election-oriented policymakers use fiscal policy may be organized in two camps. The first, based on retrospective voting, sees the state of the economy as a key driver of vote choice (Fiorina, 1981; Hibbs, 2000; Key, 1966).[3] The other camp sees ideological factors, which may flow from policymakers to voters, as driving voters' decisions (Blyth, 2013; Downs, 1957; Kriner and Reeves, 2012). Here, fiscal policy may depend more on what actors view as the "appropriate" policy response. Both of these approaches offer distinct explanations for why election-oriented policymakers would adopt various fiscal policies in response to recessions.

[2]See Alesina et al. (1997) for a critique of political business cycle models.

[3]Because retrospective voting generally argues the state of the economy drives voter behavior, I use the terms retrospective voting and economic voting interchangeably.

Theories of retrospective voting argue that voters largely decide whether or not to reelect incumbents, or incumbents' parties, based on their governing performance (Fiorina, 1981; Key, 1966). Voters may measure governing performance through broad metrics such as economic growth and war, among other factors (Barreiro, 2008; Bartels, 2014; Hibbs, 2000). Although earlier models of economic voting assumed voters would rationally evaluate an incumbent's performance, most contemporary models drop this assumption (Achen and Bartels, 2016; Healy and Malhotra, 2013). Before casting their votes, voters tend to emphasize the absolute rate of economic growth rather than that relative to the neighboring countries (Bartels, 2014). If voters do account for economic performance abroad, they are likely to be susceptible to framing effects by the media (Kayser and Peress, 2012). Furthermore, experimental and observational evidence shows that citizens overemphasize more recent economic performance relative to economic performance earlier in an incumbent's term (Huber et al., 2012; Krause and Melusky, 2014). Taken together, retrospective voting suggests that policymakers simply need to promote economic growth in the election year in order to significantly increase their likelihood of reelection. This leads us to expect that policymakers would generally respond to recessions with stimulus policies in order to boost economic growth.

However, these theories of retrospective voting struggle to explain why incumbents with capabilities to spend countercyclically may respond to recessions with austerity – policies that, by definition, reduce economic output. To explain this, researchers have argued that beliefs and partisan ideology drives vote choice to a greater extent than retrospective voting suggests (Boix, 1998; Downs, 1957). Socially constructed notions of how the world works, or how the world ought to work, can drive both voter decisions and the decisions of elite policymakers (Chwieroth, 2010a). Election-oriented incumbents may respond to recessions with austerity because they believe austerity is the appropriate response (Blyth, 2013). Voters may follow cues from political elites and then also come to

support these policies (Achen and Bartels, 2016). This does not necessarily suggest that incumbents do not care about the well being of their voters, but that they have a different ideological framework for determining which policies may actually lead to economic growth. Ideas that austerity could, in fact, be expansionary (Alesina and Ardagna, 2009) may have led incumbents to adopt these policies despite opposing viewpoints that these policies would only worsen a recession.[4]

Seemingly in acknowledgement that the economic voting model is inadequate, a third perspective argues that incumbents seek to minimize economic costs to those that vote for them (Bearce, 2003; Garrett, 1998; Walter, 2013, 2016). In other words, incumbents seek to promote the economic well-being of those who share their ideology. Assuming incumbents know that austerity is likely to increase unemployment, Walter (2013, 2016) argues that incumbents adjust to balance of payments crises in ways that minimize the economic costs for those most likely to vote for them. Because right governments are more likely to favor low budget deficits (Boix, 1998), right governments that face weak opposition may be more likely to enact austerity policies. Supporters of left governments, such as labor, are then more likely to bear the brunt of these adjustment costs, which may be realized through spending cuts rather than tax increases (Walter, 2016). Therefore, literature in this tradition argues that incumbents are likely to act in ways that protect those that share their ideological viewpoints.

However, partisan ideology did little to predict fiscal stimulus measures in response to the 2008 financial crisis (Bartels, 2014). For example, German Chancellor Angela Merkel, who long publicly opposed purported benefits of deficit spending, oversaw one of the largest fiscal stimulus policies in Europe (Blyth, 2013; Prasad and Sorkin, 2009). As ideology struggles to explain why political parties on the right may enact fiscal stimulus

[4]These policies also bode well for those who wanted to place blame on the state for economic woes (Blyth, 2013).

policies and then win reelection, retrospective voting struggles to explain why incumbents would win reelection after enacting austerity in response to recessions. Therefore, the existing literature offers incomplete explanations for why electorally-minded policymakers enact varying fiscal policies in response to recessions.

Voters certainly take issues other than the state of the economy and budget deficits into account when casting their ballots. Politicians may also respond to interest groups that seek policies that are in their narrow interests, but can cause further harm to the domestic economy (Olson, 1982). Economic constraints such as the amount of interest paid on government debt (Armingeon, 2012) and institutional constraints such as the eurozone also shape fiscal policy choices (Stiglitz, 2016). But the next section argues that integrating international economic factors into theories of economic voting provides a clear explanation for varying fiscal policy responses to recessions.

3.3 International Effects of Fiscal Policy

This section begins with the assumption, supported by several empirical studies, that incumbents face an electoral trade-off between reducing budget deficits and increasing economic growth. This assumption is well founded in the empirical literature, which shows that the economic growth in the year preceding an election is among the best predictors of reelection (Achen and Bartels, 2016; Barreiro, 2008; Bartels, 2014; Chwieroth and Walter, 2014) and that incumbents tend to be punished for large debt buildups (Alesina et al., 1998; Brender and Drazen, 2008; Peltzman, 1992). Therefore, in line with these empirical findings, I assume that incumbents are electorally-oriented and seek to increase economic output while minimizing budget deficits.

With an accommodating monetary policy, fiscal policy may promote an economic recovery from a recession. The Mundell-Fleming model argues that fiscal expansions

generally increase interest rates, which puts pressure on the exchange rate to appreciate. All else equal, higher interest rates reduce investment in the domestic economy while an appreciated currency reduces exports and increases imports. However, monetary authorities may accommodate a fiscal expansion by keeping interest rates low. This halts the currency from appreciating and allows fiscal policy to effectively increase output. Indeed, with a fixed exchange rate, monetary authorities are forced to intervene with a monetary expansion to keep the exchange rate fixed. Therefore, fiscal expansion with an accommodating monetary policy may be expected to to promote an economic recovery.

Although fiscal expansions may lead to a recovery, these policies must eventually be financed. Funding these policies may potentially result in higher taxes and potentially higher interest rates if earlier policies promoted inflation. This may lead voters to oppose expansionary policies. Presumably, this opposition is a key driver of the empirical finding that budget deficits are negatively associated with an incumbent's reelection prospects. Therefore, policymakers are likely to look for ways to promote a domestic economic recovery while minimizing budget deficits. They may do this by looking abroad.

If foreign economies are performing well, incumbents may push for contractionary policies and hope that exports will pick up slack in the domestic economy. Fiscal contractions can increase the competitiveness of a state's exports by reducing prices, wages and interest rates. Lower prices, wages, and interest rates generally reduce the real exchange rate, thus making relative prices fall even if the nominal exchange rate is fixed (Frieden, 1991, 2014). Lower prices may then boost a country's exports, resulting in an economic recovery.

In an analysis of fiscal consolidations that led to economic recoveries in Denmark, Ireland, Finland, and Sweden in the 1980s and 1990s, Perotti (2012) finds that the recoveries were largely export driven. Another study by IMF researchers of Europe's peripheral countries and the Baltic states following the 2008 financial crisis found that

wages fell faster in the tradable sector than in the non-tradable sector in every country except Greece (Kang and Shambaugh, 2014). Increased export competitiveness thus explains the largely export-led recovery in the Baltics. Indeed, analyses of cases in which fiscal consolidations have led to quick recoveries point out that these recoveries are generally export driven (Blyth, 2013; Perotti, 2012).[5] Therefore, contractionary policies may foster an export-led recovery, which can allow incumbents to oversee an improved economy by the election year while minimizing fiscal deficits.

But an export-led recovery is likely unfeasible if demand abroad is weak. If the domestic economy is in recession and export markets are in even deeper recessions, austerity could end up actually worsening the domestic recession. Fiscal contractions may not only hurt voters by increasing unemployment in the short-term, but, even if the real exchange rate depreciates, a subsequent increase in exports and economic recovery is unlikely to follow due to weak demand abroad. Therefore, if a state is in a recession and its major trade partners are performing even worse, incumbents are likely to tolerate higher budget deficits in an effort to boost economic recovery through fiscal expansion.

To summarize, this chapter argues that if a state is in a recession, election-oriented incumbents will be motivated to seek to promote a recovery while keeping budget deficits to a minimum. Hence, before enacting fiscal policy, incumbents may be expected to consider how the domestic economy is performing relative to its major export markets. If these export markets are performing well relative to the domestic economy, austerity policies at home may allow incumbents to oversee an economic recovery through increased exports while minimizing budget deficits.[6] But if the domestic economy is performing well relative to its export markets, an export-led recovery is unlikely to work due to weak

[5]This is in contrast with arguments such as Alesina and Ardagna (2009), which argue that austerity can lead to recoveries by increasing consumer and investor confidence.

[6]Although wages and prices tend to be sticky downward (Akerlof and Shiller, 2009), the above studies of "successful austerity" suggest that prices and wages may adjust quicker in countries where exports can foster an economic recovery.

demand abroad. In this case, we may expect policymakers to push for expansionary policies and tolerate higher budget deficits. Formally, this may be stated as a first hypothesis:

Hypothesis 1 *During recessions, lower (higher) levels of economic growth relative to a state's export markets are associated with more contractionary (expansionary) fiscal policies.*

Consideration of the electoral ramifications of these fiscal policies, in turn, leads to a second hypothesis:

Hypothesis 2 *Contractionary (expansionary) fiscal policies conditional on low (high) rates of economic growth relative to a state's export markets are associated with more votes in the subsequent election.*

3.4 Data and Methods

Hypothesis 1 states that fiscal policy depends, at least in part, on how a country's real gross domestic product (GDP) grows relative to that of its export markets. I define the difference between the change in domestic GDP and the change in GDP abroad as a state's relative economic performance (REP). Because this study analyzes countries that are in recession, policymakers, are most likely concerned with changes in output rather than relative levels, which follows from the economic voting literature. As such, GDP_i is defined as the annual percent change in real GDP in state i. GDP_i^E is defined as the export weighted average of the annual percent change in real GDP of state i's major trade partners. I use export weighted GDP because exports are the key mechanism through which GDP in state i would grow after increased foreign demand for domestic goods. Data on trade flows come from the IMF's direction of trade statistics. Formally, relative

economic performance may be expressed as:

$$REP_{it} = GDP_{it} - GDP_{it}^{E} \tag{3.1}$$

Positive values occur when state i is experiencing higher growth than its export markets and is, therefore, performing well relative to its export markets. Negative values occur when state i is growing at a slower rate than than its export markets and is, therefore, performing relatively worse.

This measure for relative economic performance also accounts for the varying depths of recessions across countries. If a country is in a deep recession it will most likely have a lower value for relative economic performance than a country that is in a relatively milder recession because the country will have a larger percentage decrease in real GDP. This variable also implicitly captures the possible endogeneity between domestic and international economic performance. For example, if the domestic economy is doing poorly while its trade partners are doing well, there will likely be a larger negative number for relative economic performance. But if the whole world is in a recession, then a state's economic performance relative to its trade partners may be closer to zero. Because this variable does not perfectly capture this endogeneity, I also include a variable for the fiscal policies enacted in a state's export markets to control for these spatial effects as well as other several control variables, discussed in more detail below.

This measure also depends on conditions abroad, such as fiscal policies. Because data for fiscal policies, as defined below, are unavailable for a number of countries, I limit the analysis to OECD countries. Although restricting the case selection to only the OECD excludes exports to several emerging markets, most of the world's largest economies, and hence the world's largest importers, are members of the OECD. Including all possible export markets in the measure for relative economic performance may be desirable, but

the lack of data makes it difficult to control for other external factors that may be influencing both *REP* and fiscal policy, thus casting doubt on exogeneity assumptions.

A potential problem of with using the trade weighted proportion of a state's trade partners' economic performance is reverse causality. Fiscal policies may be used as a tool to influence trade flows between countries. To account for this problem I use an instrumental variables approach with the minimum distance between two countries, measured in kilometers, as an instrument for trade between countries. Countries that are geographically close trade more with each other than those that are geographically distant (Feyrer, 2009). Thus geography causes countries to trade more, but it is highly unlikely that trade or fiscal policy causes countries to be geographically close. In other words I use REP^D, where growth abroad is weighted by distance between countries, to instrument for REP^E, where growth abroad is weighted by exports. Data for the minimum distance between countries come from Weidmann et al. (2010). Formally, I estimate the following two equations:

$$REP^E_{i,t} = \alpha_i + \gamma_1 REP^D_{i,t} + \sum_{k=2}^{n} \gamma_k X_{k,i,t} + \nu_{i,t} \tag{3.2}$$

$$Budget_{i,t+1} = \alpha_i + \beta_1 \widehat{REP^E_{i,t}} \times Recession_{i,1} + \sum_{j=2}^{n} \beta_j Z_{j,i,t} + \varepsilon_{i,t} \tag{3.3}$$

Where α_i represents time-invariant unit-specific effects. For example, Sweden and Chile have budget balanced amendments in their constitutions that may constrain their ability to respond to recessions. Fixed effects account for these factors. X and Z represent vectors of control variables. The lower-order terms of the interaction are included in these control variables. ν and ε represent error terms. Output for the first stage regression is available in Appendix C.

3.4.1 Dependent Variable

To measure fiscal policies one cannot simply analyze changes in the budget balance because recessions tend to deepen budget deficits even if states enact contractionary fiscal policies. This may lead one to infer the exact opposite of the policies actually enacted. To measure fiscal policy I use the general government structural balance as a percentage of GDP, which adjusts for business cycle fluctuations. This variable is denoted *Budget Balance* in the output tables below. Fiscal expansions are associated with lower values and fiscal contractions are associated with higher values of this variable. I lead this variable one period because changes in taxes or spending will largely be realized in the following year's budget balance. For example, in the United States the fiscal year begins in October. Factors that affect budget decisions will occur before October, but these factors' impact on the budget will not be observed until the following year.

As a robustness check, available in Supplementary File 1, I use expenditures instead of the cyclically adjusted budget balance to measure fiscal policy. The results are generally robust to this alternative measure. But, as Prasad and Sorkin (2009) point out, several stimulus policies passed in 2008 relied to a large extent on tax cuts. Tax cuts made up about 35% of total stimulus in the United States and Spain and 68% of the 2008 stimulus in Germany (Prasad and Sorkin, 2009).[7] Because expenditures do not capture policies such as tax cuts, government expenditures is an inferior measure of budget policy compared to cyclically adjusted budget balances. A recent study by IMF researchers that surveyed the literature on fiscal consolidation shows that the cyclically adjusted budget balance is among the most common measures for fiscal policy (Escolano et al., 2014).[8]

[7] Germany's 2009 stimulus included more spending.

[8] Only a small minority of the papers surveyed in Escolano et al. (2014) distinguish between taxes and spending in their measures of fiscal consolidation.

3.4.2 Independent and Control Variables

Recessions can have various causes, such as banking crises, currency crises, or those caused by natural disasters. But a strict focus on GDP to define a recession is commonly used in the economics literature (Reinhart and Rogoff, 2014). Although focusing on GDP alone may ignore other important aspects of the economy, Okun's law shows there is a strong negative correlation between economic growth and unemployment. Therefore, focusing on economic growth as measured by GDP, although imperfect, captures several other aspects of an economy that are correlated with other macroeconomic conditions that likely affect vote choice, such as unemployment.

I use the popular definition of a recession as two consecutive quarters of negative GDP growth. This definition is given in popular macroeconomics textbooks, such as Blanchard (2011) and is popular in most journalistic sources. To ensure that the data more accurately capture the underlying trend in each state's economy and not seasonal fluctuations, I use seasonally adjusted quarterly data. These data come from the OECD. A recession is defined as lasting until real GDP stops declining. Countries take the value of one in each year if at least one quarter in the year was preceded by a quarter of negative GDP growth.

To calculate relative economic performance, *REP*, I take the difference between the growth of real GDP in state i minus the export weighted average GDP in state i's export markets. The IMF direction of trade statistics provide data for countries' export markets. Unlike studies such as Cao (2012), there is no need to distinguish among the type of exports being sent from country i to each country j because this chapter is interested in analyzing how the economic performance of a state's main export markets affects domestic fiscal policy choices. By using real GDP, which is adjusted for the price level, the relative economic performance variable implicitly accounts for changes in the

price levels of consumer goods both at home and abroad.

Fiscal policies abroad can affect a state's relative economic performance because expansionary or contractionary policies in a state's export market will affect the trade weighted change in real GDP. To control for the effects of spatial interdependence, or the effects that the fiscal policies enacted in a state's export markets have on domestic fiscal policies, I include a spatially lagged dependent variable (Chaudoin et al., 2015; Franzese and Hays, 2007). This is denoted below as *Spatial Budget*. Italics denote how the variable is identified in the output tables.

The economic voting literature argues that annual changes in *Real GDP* affect the probability of an incumbent winning reelection. Similarly, we may expect countries that experience larger declines in GDP to enact larger fiscal expansions to try to recover from the decline. To control for this effect I include a variable for the a country's change in real GDP.

The effect of the performance of a state's export markets on fiscal policy is likely shaped, to some extent, by how dependent a country is on trade. More closed economies are less likely to respond to conditions in their export markets. More open economies may be more prone to respond to internationally-oriented pressure groups (Frieden, 2014; Olson, 1965). Because more closed economies may be less likely to consider the state of foreign economies in making their economic policy decisions, I include a control variable for *Trade Openness*, which is defined as the sum of a country's exports and imports divided by GDP (Rodrik, 1998).

Countries have varying economic constraints on their ability to run budget deficits. Because fiscal policy is the main tool used to stabilize the accumulation of debt, I include a variable for the gross *Debt to GDP Ratio* of each country in the sample. The debt to GDP ratio may also affect voters' aversion toward budget deficits. But because some countries can run higher amounts of debt than others, I also include a variable for long

term *Interest Rate Spreads* to further account for the ability of states to run budget deficits. The spreads are calculated with the US interest rate as a base. This follows from a previous study that showed that interest rate spreads were the best predictor of austerity in Europe following the 2008 financial crisis (Armingeon, 2012). Furthermore, countries with large balance of payments deficits may be forced to either enact austerity or devalue the exchange rate (Walter, 2016). To control for this factor I include a variable for the *Current Account Balance* as a percentage of GDP. Data for these variables come from the IMF World Economic Outlook.

Several OECD countries are in the *Eurozone*. Eurozone countries have signed pacts limiting budget deficits, which may constrain their fiscal policies. To capture these effects, I include a dummy variable for each year a country is in the eurozone.

I also include variables of political institutions that are likely to affect fiscal policy decisions. All of these data come from an updated version of Beck et al. (2001). The timing of a subsequent election may affect fiscal policy decisions (Kayser, 2005; Schleiter and Tavits, 2016). Politicians with longer time horizons may favor policies that let prices and wages, or the exchange rate, adjust downward thus fostering export-led recoveries. Politicians with a shorter time horizon may favor expansionary policies for their short-term benefits. In line with the political business cycles literature (Hibbs, 1977), the number of years a leader has in office before an election may be negatively associated with budget balances. To control for the possible effect of timing, I include a variable for the number of years remaining until the executive's subsequent election, *Years to Next Exec. Election*, as well as a variable for how many years an incumbent has been in office, *Years Exec. in Office*, following Kayser (2005).

The number of veto players is negatively associated with the ability of governments to pass legislation (Tsebelis, 1995). Therefore, I include a variable for the number of *Vetoes*. However, veto players may not matter if the legislative majority is cohesive. To

control for this, I include a variable to account for the fraction of legislative seats that are held by the governing party. Larger values of this variable, denoted as *Legislative Frac.*, indicate that the governing party controls are larger portion of the legislature, thus it can more easily pass policies.

As the literature review showed, a government's partisan orientation may also affect its fiscal policy response to a recession. Therefore, I include dummy variables for the *Partisan Orientation of Exec.* indicating if the executive is on the political center, right, or undefined. Left parties are the base.

To control for a time trend I include a cubic polynomial, although I do not present the results for each time variable. Summary statistics of all of the variables used in the regression are presented in Appendix B.

3.4.3 Empirical Technique and Results

In both stages, I use country level fixed effects to control for unit-specific heterogeneity. An F-test confirms that a fixed effects model fits the data significantly better than a pooled OLS model. A statistically significant Hausman test suggests a random effects model is inefficient, thus supporting estimation of a fixed effects model. A Breusch-Pagan test shows that there is heteroskedasticity in the data. Therefore, in the second stage of the regression, after correcting the standard errors to account for the instrumental variable, I use cluster robust standard errors. Table 3.1 presents the results.[9] Models 1 through 4 interact relative economic performance with a dummy variable that is coded one for each year a country is in recession. As a robustness check, Models 5 through 8 subset the data to only include recession years.

Recall that higher values of the dependent variable indicate more contractionary policies while lower values indicate more expansionary policies. Because the effects of inter-

[9]The design of the tables throughout this chapter are modified from Hlavac (2015).

Table 3.1: Fiscal Policy as a Function of Relative Economic Performance

	Dependent variable:							
	Budget Balance$_{t+1}$							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Spatial Budget Balance	0.413**	0.332*	0.324*	0.273	0.378	0.378	0.154	0.177
	(0.195)	(0.190)	(0.190)	(0.203)	(0.319)	(0.312)	(0.378)	(0.444)
REP × Recession	−0.533***	−0.449***	−0.492***	−0.496***				
	(0.142)	(0.133)	(0.138)	(0.129)				
REP	−0.099	−0.179*	−0.192*	−0.175*	−0.616***	−0.505***	−0.550***	−0.601***
	(0.108)	(0.104)	(0.102)	(0.093)	(0.151)	(0.148)	(0.132)	(0.158)
Recession	−0.659	−0.424	−0.213	0.047				
	(0.448)	(0.432)	(0.498)	(0.394)				
Change Real GDP	0.303***	0.354***	0.358***	0.387***	0.256**	0.229**	0.242**	0.356**
	(0.068)	(0.071)	(0.064)	(0.051)	(0.105)	(0.101)	(0.099)	(0.145)
GDP Per Capita (Log)		−3.275***	−4.356***	−5.215***		−2.872	−2.106	−3.622
		(1.039)	(1.297)	(1.339)		(1.799)	(2.187)	(2.770)
Eurozone			−1.469	−1.599*			−1.407	−1.122
			(0.944)	(0.947)			(2.262)	(2.011)
Debt to GDP			−0.011	−0.014			0.024	0.028
			(0.018)	(0.018)			(0.021)	(0.020)
Interest Rate Spread			0.079	0.051			0.360***	0.319**
			(0.090)	(0.096)			(0.127)	(0.140)
Center Exec.			−0.738	−0.612			2.098	2.689
			(0.756)	(0.833)			(1.718)	(2.091)
Right Exec.			0.109	0.119			0.032	0.384
			(0.389)	(0.321)			(1.086)	(1.040)
Undefined Exec.			0.411	0.505			−2.057	−1.226
			(1.096)	(1.057)			(1.786)	(1.797)
Years Exec. in Office				0.082				0.179
				(0.051)				(0.125)
Years to Next Exec. Election				0.018				−0.135
				(0.061)				(0.202)
Vetoes				0.105				0.554**
				(0.074)				(0.264)
Legislative Frac.				0.872				3.869
				(1.875)				(5.597)
Trade Openness				0.011				−0.026
				(0.019)				(0.030)
Current Account Balance				−0.098				−0.124
				(0.061)				(0.106)
Observations	605	605	547	533	126	126	115	113
R^2	0.177	0.225	0.273	0.314	0.195	0.237	0.359	0.422
Adjusted R^2	0.166	0.211	0.252	0.286	0.141	0.169	0.231	0.250

Note: *p<0.1; **p<0.05; ***p<0.01
Cluster robust standard errors in parentheses

action terms are more clearly visible graphically, Figures 3.2 and 3.3 plots the marginal effects of each interacted variable along with 95 percent confidence intervals. Figure 3.3, also includes a frequency distribution for observations along the x-axis, as recommended by Berry et al. (2012). Figure 3.2 plots the marginal effects of the relative economic performance variable on the budget balance over all observed values of the recession variable. Figure 3.3 plots the marginal effects of a recession on the cyclically adjusted budget balance over the full range of relative economic performance that is observed. Figures 3.2 and 3.3 use the results from model 1.

Figure 3.1: Marginal Effects of REP and Recession on the Cyclically Adjusted Budget Balance

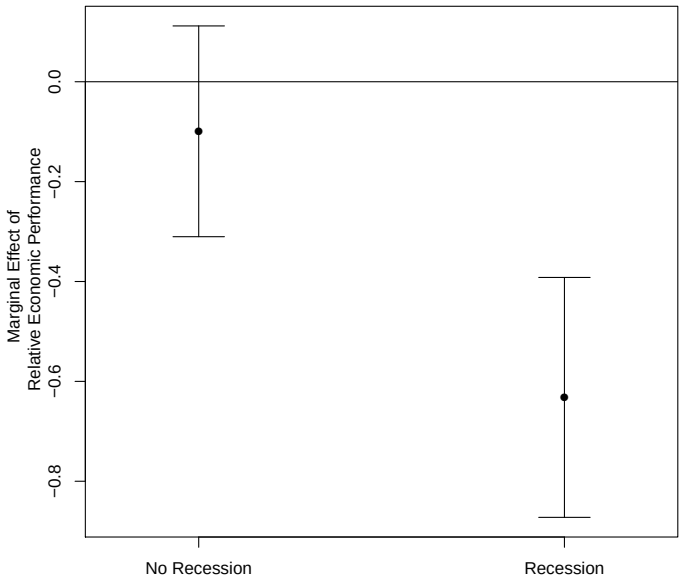


Figure 3.2: Marginal Effects of REP

Figure 3.2 shows that when the recession variable is held at zero, the marginal effect of relative economic performance is statistically indistinguishable from zero. But during recessions, the marginal effect of relative economic performance is negative and statisti-

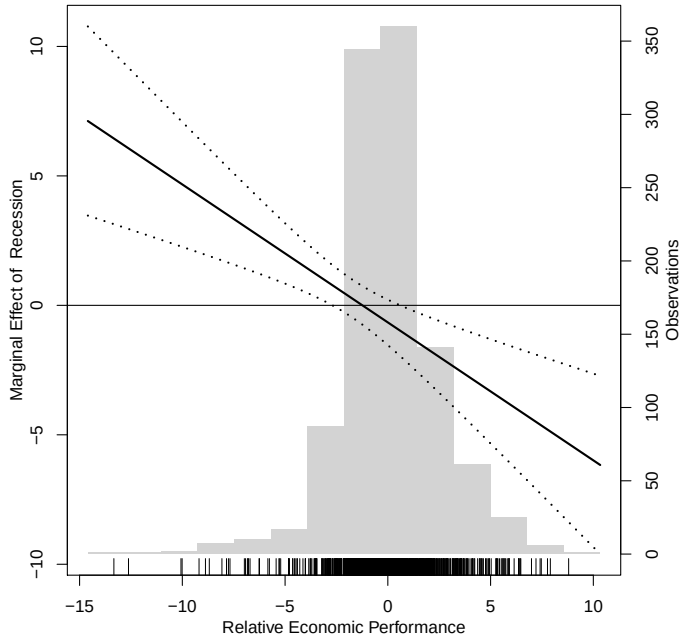


Figure 3.3: Marginal Effects of Recession

cally significant. Conditional on a recession, the effect of a one-unit increase in relative economic performance is associated with about a 0.6 percentage point decrease in the cyclically adjusted budget balance. This negative effect suggests that when a country is in a recession, fiscal policies become more expansionary as its relative economic performance increases. This is the relationship we would expect if a country used fiscal policy to try to boost the economy with a secondary concern on limiting budget deficits. This negative relationship also supports the converse: countries that have lower levels of relative economic performance are associated with higher cyclically adjusted budget balances. This suggests that countries that are performing poorly relative to their export markets are more likely to adopt austerity measures.

Figure 3.3 plots the budgetary effects of a recession over all observed values of relative economic performance. Figure 3.3 provides strong support for this chapter's argument.

When relative economic performance is less than about negative three, recessions are estimated to have a positive and statistically significant effect on the adjusted budget balance. This suggests that nations with low relative economic performance are likely to enact austerity after a recession. As shown above, these policies may be enacted with the goal of promoting an export-led recovery. Figure 3.3 also shows that when relative economic performance becomes positive – or when a state is performing better than the export weighted average of its export markets – recessions are estimated to be negative and statistically significant. Again, this supports the hypothesis that when countries are performing well relative to their export markets an export-led recovery is likely to prove unfeasible, making these countries more likely to enacted a fiscal stimulus.

The histogram in Figure 3.3 shows that relative economic performance is normally distributed. Over several observations the marginal effect is negative and statistically significant while over other observations the marginal effect is positive and statistically significant. It is a relatively small area – where *REP* is around zero – where the marginal effects are not statistically significant. This is consistent with this chapter's argument that fiscal expansion – or contraction – is shaped by a country's economic performance relative to its export markets. We would expect relative economic performance to have stronger effects on fiscal policy when the absolute value is large and to have a weaker effect on fiscal policy when the value is small. Overall, these results provide strong support for this chapter's argument. The results suggest that election-oriented incumbents may set fiscal policy in a way to maximize output and minimize budget deficits.

As a comparison with other measures, model 8 shows that a one-standard deviation increase in *REP* is associated with a 1.62 percentage point decrease in the adjusted budget balance. A one standard deviation increase in *Interest Rate Spreads* is associated with a 1.45 percentage point increase in the adjusted budget balance. Although interest rates are generally observed to be among the best predictors of fiscal policy (Armingeon,

2012), this result suggests that the effect of *REP* is around the same size. These results are, therefore, also substantively significant. Note that the partisan orientation of the executive has no statistically significant effect on fiscal policy. Independent of economic factors and partisan ideology, relative economic performance appears to be an important driver of fiscal policy during recessions.

3.4.4 Electoral Effects of Fiscal Policy

Although the above models provide support for the argument that relative economic performance is associated with the fiscal policy response to recessions, the models say little about the electoral effect of these policies. This section seeks to uncover the electoral effects of various fiscal policies conditional on a state's relative economic performance.

I use the same data as above, but subset to elections from 2009 to 2011, following Bartels (2014). The analysis covers 16 unique election across OECD countries.[10] A list of these elections is available in Appendix D. This time period marks a point where most OECD countries experienced recessions. Because I am interested in estimating the effects of fiscal policy conditional on various levels of relative economic performance, this subset removes any need to run a triple interaction, which is not only difficult to interpret but also adds more variables to the regression (Achen, 2005). This short time period also reduces time-confounding factors.

Formally, I estimate the following equation:

$$\Delta Vote_{i,t} = \alpha + \beta_1 \Delta REP^{E}_{i,t-2} \times \Delta Budget_{i,t-2} + \sum_{j=2}^{n} \beta_j \Delta X_{j,i,t-1} + \varepsilon_{i,t} \qquad (3.4)$$

The dependent variable is the change in the incumbent party's vote share from the

[10] In addition to removing cases in line with Bartels (2014), Hungary's 2010 election is also removed from the sample due to missing budget balance data.

previous election. To measure the effect of budget balances conditional on relative economic performance, I interact *REP* and *Budget*. The constituent terms of the interaction are included in the control variables. *Budget* is operationalized, again, as the government structural balance as a percentage of potential GDP. As a robustness check I also use expenditures, which is available in Supplementary File 1, and continue to find general support for the argument.

Following research on economic voting, this chapter assumes that policymakers seek to oversee economic growth by the election year. Because of temporal lags that occur before fiscal policy affects the economy, I lag both the *REP* and *Budget* variables two years. This gives fiscal policy anywhere from just over one year to just under two years to affect the economy by the election. As elections may be held early or late in the year – elections occur between February and November for countries in this sample – I use a different technique to adjust for the month in which each election was held. The results, available in Supplementary File 1, are statistically identical. I use first differences with the independent variables to account for time invariant unit-specific effects.[11] Table 3.2 presents the results.

Hypothesis 2 states that conditional on low (high) relative economic performance, contractionary (expansionary) policies will have a positive electoral effect – recall that higher (lower) values for budget balances indicate contractionary (expansionary) policies. The negative and statistically significant estimates of the interaction term appear to support this hypothesis. But because both variables used in the interaction term are continuous, interpretation of the results in Table 3.2 is difficult. As with the previous results, figures 3.4 and 3.5 provide marginal effects plots with 95 percent confidence intervals, where Figure 3.4 shows the marginal effects of *Budget* over all observed values of *REP* and Figure 3.5 shows the marginal effects of *REP* over all observed values of

[11] All data are in the form of a panel with $T = 2$.

Table 3.2: Electoral Effects of Budget Conditional on REP

	Dependent variable:		
	Change in Incumbent Party Vote Share		
	(9)	(10)	(11)
REP × Budget	−0.723**	−0.891***	−0.938**
	(0.293)	(0.245)	(0.343)
REP	−1.265	−2.504***	−2.646***
	(0.797)	(0.679)	(0.779)
Budget	−2.024*	−1.352	−1.406
	(1.117)	(0.855)	(0.950)
Change Real GDP		−0.739***	−0.734***
		(0.178)	(0.171)
Interest Rates			−0.268
			(1.030)
Constant	−8.074***	−9.619***	−9.891***
	(1.781)	(1.659)	(1.652)
Observations	16	16	16
R^2	0.269	0.484	0.487
Adjusted R^2	0.202	0.333	0.305
Note:			*p<0.1; **p<0.05; ***p<0.01
			Robust Standard Errors in Parentheses

Budget. Both of these figures use the results from model 9. The estimated effect sizes for model 9 are the smallest in Table 3.2, thus the figure below uses the most conservative estimates.

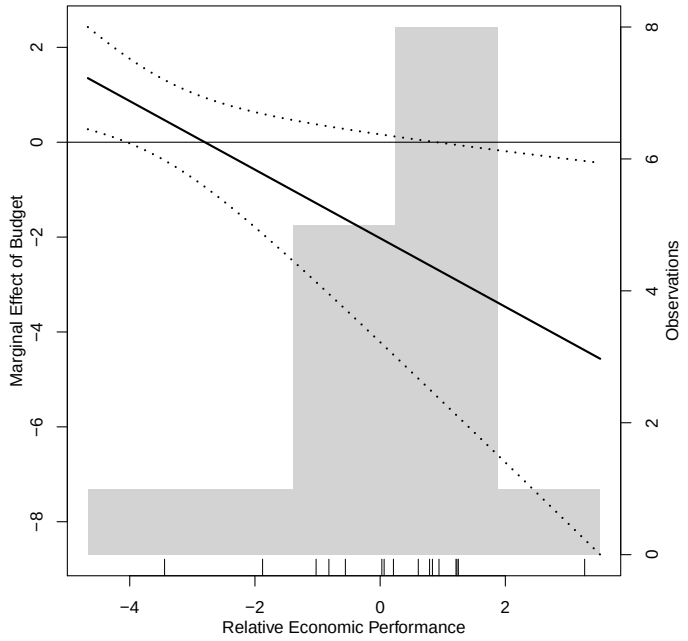


Figure 3.4: Marginal Effects of Budget

Although the small sample size requires some caution when interpreting the results, figures 3.4 and 3.5 provides support for the argument that the effect of fiscal policy on an incumbent party's vote share is conditional on a state's relative economic performance. Figure 3.4 shows that at low observed values of *REP*, increased budget balances – more contractionary policies – are positively associated with more votes for the incumbent party in the next election. The estimate is statistically and substantively significant. At low levels of *REP*, a 1 percentage point increase in the budget balance is associated with just under a 2 percentage point increase in the incumbent party's vote share.

If a country is performing well relative to its export markets – when *REP* is positive

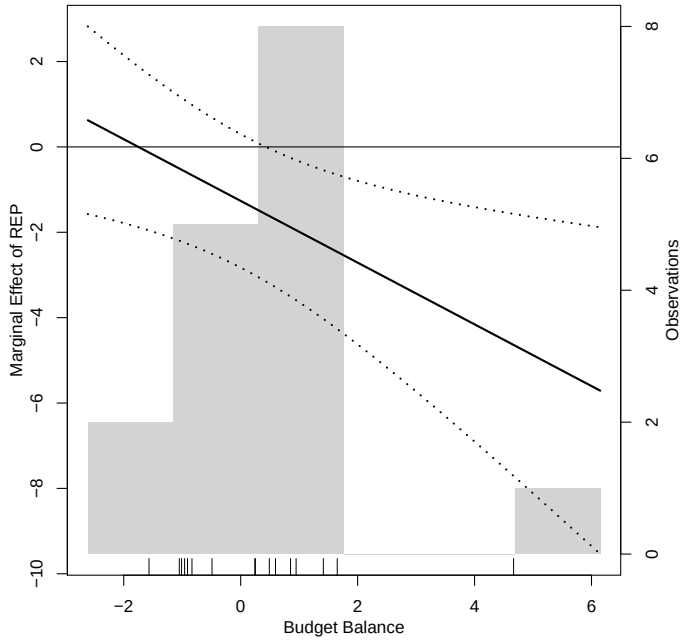


Figure 3.5: Marginal Effects of REP

– the effect of fiscal policy is negative and of statistically significant. This suggests that when an economy is performing well relative to its export markets, stimulus policies may boost vote share for the incumbent party. These estimated effects are, again, substantively strong. The estimate suggests that a 1 percentage point decrease in the budget balance is associated with an increase in the incumbent's vote share by up to 4 percentage points. This is consistent with arguments that fiscal stimulus can help incumbents at the polls. Although this is only significant for a relatively few observations, keep in mind that the sample size is small.

This effect of fiscal policy on an incumbent party's vote share is unlikely to be driven by ideological factors because the effect is conditional on levels of *REP*. For example, if neoliberal ideologies were driving the results, we would expect a positive relationship between austerity and vote share for the incumbent across all levels of *REP*, however,

this is not what the data show.

While these results do not provide smoking gun evidence in support of Hypothesis 2 – and should be taken with caution due to the small sample size – the results coupled with those in Table 3.1 provide strong support for this chapter's theoretical argument. In cases where an economy is performing poorly relative to its export markets, policymakers systematically enact contractionary fiscal policies. Consistent with the economic voting literature, these policies may be optimal for election-oriented incumbents by allowing them to oversee an export-led recovery while minimizing budget deficits. An analysis of elections during and following the global financial crisis shows that when a country is performing poorly (well) relative to its main export markets, austerity (stimulus) may be electorally expansionary. Taken together, these results suggest that incumbents strategically use fiscal policy in order to boost their reelection prospects.

3.5 Conclusion

A logical extension of the economic voting literature suggest that incumbents in states with the ability to run budget deficits should generally enact fiscal stimulus policies in response to recessions. But empirically we see much variation in the policy responses to recessions. Furthermore, incumbents have won reelection despite enacting harsh austerity measures, which seems to contradict the predictions of much of the economic voting literature. This chapter seeks to resolve these apparent contradictions by accounting for international factors. I show that a state's economic performance relative to its trade partners is a key driver of fiscal policy. Conditional on a state's relative economic performance, fiscal policy also has consistent electoral effects. The results suggest that austerity policies appear to be electorally expansionary when a state is performing poorly relative to its export markets.

After considering the international economic effects of fiscal policy, these results should not be too surprising. Economic studies have found that austerity is only likely to promote growth if strong exports follow these policies (Blyth, 2013; Perotti, 2012). If the economic voting model is correct, we would expect austerity to be electorally expansionary under these conditions. However, by treating the international economy as a constant, research designs are unable to capture the electoral effects of various fiscal policies. Political economy research has much to gain by further considering international factors (Cohen, *Forthcoming*; Oatley, 2011).

The results from this study are likely applicable to the monetary and exchange rate realm. If policymakers seek to boost economic growth through monetary or exchange rate policy, they may consider whether policies designed to increase exports can plausibly achieve this goal given the state of the global economy. If a country's export markets are performing poorly, policies that foster exchange rate depreciation are unlikely to substantially boost exports due to weak demand abroad. Therefore, monetary and exchange rate policies may also be conditioned by international economic factors.

3.6 Summary Statistics of Variables in Regression

Table 3.3: Summary Statistics for Variables in Table 3.1

Statistic	Mean	St. Dev.	Min	Max
Adjusted Budget Balance	−2.589	3.469	−18.61	5.968
Spatial Budget Balance	−2.2	1.325	−8.656	1.358
REP^E	0.373	2.69	−14.6	10.34
REP^D (Instrument)	−0.256	2.889	−14.795	11.304
Recession	0.183	0.387	0	1
Change Real GDP	2.662	3.111	−14.738	12.266
Trade Openness	77.303	46.111	15.924	346.372
Interest Rate Spread	−2.260	4.543	−41.793	7.296
Eurozone	0.178	0.383	0	1
Current Account Balance	0.218	8.036	−60.271	30.337
GDP Per Capita (Log)	9.652	0.925	7.022	11.627
Debt to GDP Ratio	56.164	34.929	0.000	243.203
Vetoes	4.001	1.490	1	16
Partisan Orientation of Exec.	1.845	1.007	0	3
Years to Next Exec. Election	1.766	1.321	0	7
Years Exec. in Office	4.207	3.873	1	33
Legislative Frac.	0.574	0.129	0.121	1.000

Table 3.4: Summary Statistics for Variables in Table 3.2

Statistic	Mean	St. Dev.	Min	Max
Δ Incumbent Vote %	−6.404	5.379	−12.590	0.740
Δ REP	−1.837	2.458	−4.669	1.266
Δ Budget	0.123	3.625	−2.614	6.149
Δ Change Real GDP	4.198	9.448	−3.750	17.215
Δ Interest Rate	0.019	2.845	−2.660	4.113

3.7 First Stage of 2SLS

Below is the first stage regression for the results Table 3.1. Because of the interaction term in models 1 through 4, I present the first stage for models 1 through 8, which subset to cases that are in recession.

Table 3.5

	Dependent variable:			
	REP^E			
	(1)	(2)	(3)	(4)
Spatial Budget Balance	0.097	0.087	0.197*	0.224*
	(0.089)	(0.086)	(0.114)	(0.122)
REP^D	0.914***	0.956***	1.057***	1.049***
	(0.065)	(0.065)	(0.072)	(0.072)
Change Real GDP	−0.047	−0.058	−0.118**	−0.087
	(0.052)	(0.050)	(0.053)	(0.056)
GDP Per Capita (Log)		−1.371***	−2.710***	−2.359***
		(0.493)	(0.687)	(0.768)
Eurozone			−1.815***	−1.543**
			(0.605)	(0.641)
Debt to GDP			−0.008	−0.002
			(0.008)	(0.008)
Interest Rate Spread			0.068	0.035
			(0.053)	(0.052)
Center Exec.			0.513	0.310
			(0.423)	(0.452)
Right Exec.			0.315	0.332
			(0.218)	(0.230)
Undefined Exec.			−0.157	−0.136
			(0.612)	(0.685)
Years Exec. in Office				0.031
				(0.037)
Years to Next Exec. Election				−0.120*
				(0.069)
Vetoes				−0.098
				(0.142)
Legislative Frac.				−1.156
				(2.212)
Trade Openness				−0.022**
				(0.010)
Current Account Balance				−0.020
				(0.034)
Observations	130	130	115	113
R^2	0.894	0.902	0.924	0.936
Adjusted R^2	0.653	0.652	0.595	0.555
Note:				*p<0.1; **p<0.05; ***p<0.01

3.8 OECD Elections 2009-2011

Country	Year	Month	Vote Gain
Germany	2009	Sept.	-12.59
Greece	2009	Oct.	-8.36
Iceland	2009	April	-12.94
Israel	2009	Feb.	-4.68
Japan	2009	Aug.	-9.09
Norway	2009	Sept.	2.68
Portugal	2009	Sept.	-8.47
Australia	2010	Aug.	-2.58
Hungary	2010	May	-23.91
Netherlands	2010	June	-14.46
Slovak Republic	2010	June	5.66
Sweden	2010	Sept.	3.83
United Kingdom	2010	May	-6.19
United States	2010	Nov.	-8.37
Estonia	2011	March	0.74
Finland	2011	April	-9.23
Ireland	2011	Feb.	-24.11

Robustness Checks

This section uses expenditures in lieu of the cyclically adjusted budget balance as a measure of fiscal policy. As stated above, the cyclically adjusted budget balance controls for economic fluctuations that may also affect the budget but are independent of fiscal policy. For this reason, very few studies use expenditures as a measure of fiscal policy and instead use cyclically adjusted budget balance data. A recent study by IMF researchers that surveyed the literature on fiscal consolidation shows that the cyclically adjusted primary balance is among the most common measures for fiscal policy (Escolano et al., 2014).

The empirical analysis in the chapter used three sets of data: (1) data from 1980 to 2012, (2) data from 1980 to 2012 subset to only include recession years and (3) election

data from 2009 to 2011. Analyses of the first two datasets use fixed effects, while analysis of the third uses first differences. Table 3.6 compares the two measures over all three datasets, regressing expenditures on cyclically adjusted budget balances and regressions cyclically adjusted budget balances on expenditures. I use fixed effects in models (1, 2, 4, and 5) and first differences on models (3 and 6). All else equal, higher expenditures should be associated with lower budget balances.

Table 3.6: Relationship between Expenditures and the Cyclically Adjusted Budget Balance

	Dependent variable:					
	Expenditures			Adjusted Budget Balance		
	(1)	(2)	(3)	(4)	(5)	(6)
Budget Balance	-0.817^{***}	-0.369^{***}	0.206			
	(0.046)	(0.127)	(0.318)			
Expenditures				-0.393^{***}	-0.215^{***}	0.141
				(0.022)	(0.074)	(0.218)
Constant			1.370^{*}			-0.222
			(0.655)			(0.619)
Observations	696	128	16	696	128	16
R^2	0.321	0.079	0.029	0.321	0.079	0.029
Adjusted R^2	0.307	0.061	0.025	0.307	0.061	0.025
Note:						*p<0.1; **p<0.05; ***p<0.01

Table 3.6 shows that over the longer time period (models 1, 2, 4, and 5) there is a very strong relationship between expenditures and the cyclically adjusted budget balance. However, over the short time period (models 3 and 6), the relationship between the two variables is weak. Expenditures likely increased over the time period 2008 to 2012 in ways related to the business cycle and, therefore, do not accurately capture fiscal policy responses over the time period. Because the literature treats cyclically adjusted budget balance as generally a superior measure to expenditures to capture fiscal policy, less weight should be given to analyses that use expenditures, especially in the robustness check on Hypothesis 2.

3.8.1 Expenditures as Dependent Variable: Hypothesis 1

Table 3.7 is the same as Table 3.1 but uses expenditures as the dependent variable.

Hypothesis 1 predicts that higher (lower) REP is associated with higher (lower) expenditures. The first four models largely support this hypothesis, as the interaction effect is positive and statistically significant. The second four models, however, are less supportive as the estimate for REP on the subset of recessions is statistically indistinguishable from zero although the sign is in the hypothesized direction.

The following figures plot the marginal effects. Figure 3.6 plots the marginal effects of REP over recessions and non-recessions while Figure 3.7 plots the effects of a recession over all observed values of REP.

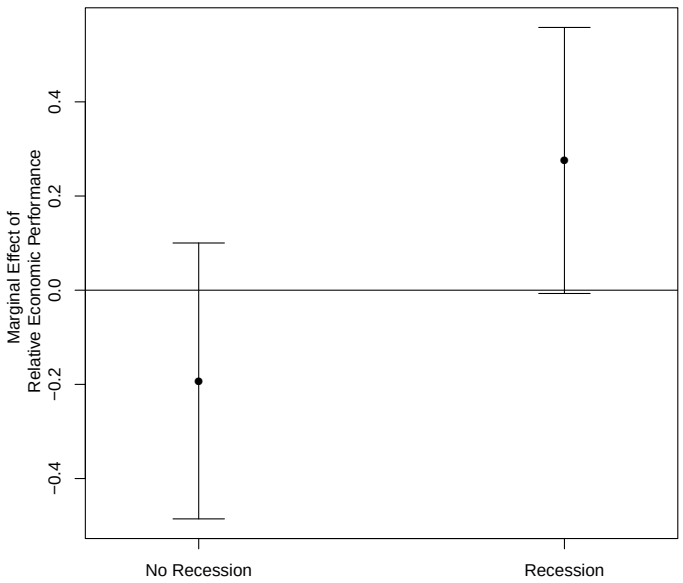


Figure 3.6: Marginal Effects of REP

As with Figure 3.2 when the recession variable is held at zero, the marginal effect for REP is statistically insignificant. However, when during recessions REP is positive and

Table 3.7: Expenditures as a Function of Relative Economic Performance

	Dependent variable:							
	Budget Balance$_{t+1}$							
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Spatial Expenditures	0.045	0.048	−0.016	−0.034	0.038	0.071	0.052	−0.031
	(0.090)	(0.091)	(0.064)	(0.056)	(0.129)	(0.136)	(0.130)	(0.129)
REP × Recession	0.439***	0.416***	0.417***	0.380***				
	(0.150)	(0.145)	(0.140)	(0.130)				
REP	−0.148	−0.133	−0.082	−0.041	0.275	0.178	0.124	0.283
	(0.145)	(0.143)	(0.107)	(0.108)	(0.174)	(0.169)	(0.126)	(0.177)
Recession	1.118***	1.056**	0.949**	0.407				
	(0.426)	(0.458)	(0.384)	(0.334)				
Change Real GDP	−0.487***	−0.495***	−0.419***	−0.525***	−0.446**	−0.410**	−0.334*	−0.580**
	(0.116)	(0.119)	(0.111)	(0.114)	(0.193)	(0.195)	(0.191)	(0.261)
GDP Per Capita (Log)		0.905	3.403***	5.513***		2.030	7.334***	11.471***
		(0.981)	(1.179)	(1.223)		(1.546)	(2.438)	(2.898)
Eurozone			−0.126	−0.409			2.790	2.362
			(1.069)	(1.030)			(3.262)	(2.686)
Debt to GDP			0.090***	0.095***			0.069*	0.078**
			(0.022)	(0.019)			(0.035)	(0.031)
Interest Rate Spread			−0.278***	−0.224***			−0.447***	−0.470***
			(0.094)	(0.082)			(0.139)	(0.151)
Center Exec.			1.444***	0.847			1.247	−0.688
			(0.542)	(0.645)			(1.724)	(0.968)
Right Exec.			0.265	0.199			0.196	−0.111
			(0.393)	(0.403)			(0.771)	(0.616)
Undefined Exec.			−1.525	−1.430			−0.682	−2.768
			(1.146)	(0.960)			(1.843)	(1.792)
Years Exec. in Office				−0.080				−0.421**
				(0.049)				(0.207)
Years to Next Exec. Election				−0.089				−0.081
				(0.065)				(0.173)
Vetoes				−0.433**				−0.860***
				(0.181)				(0.304)
Legislative Frac.				−4.040				−13.391
				(3.603)				(14.096)
Trade Openness				0.019				0.037
				(0.019)				(0.026)
Current Account Balance				0.185***				0.233**
				(0.047)				(0.114)
Observations	568	568	511	497	118	118	107	105
R^2	0.265	0.305	0.428	0.484	0.175	0.197	0.269	0.411
Adjusted R^2	0.249	0.285	0.393	0.438	0.124	0.139	0.169	0.235

Note: *p<0.1; **p<0.05; ***p<0.01
Cluster robust standard errors in parentheses

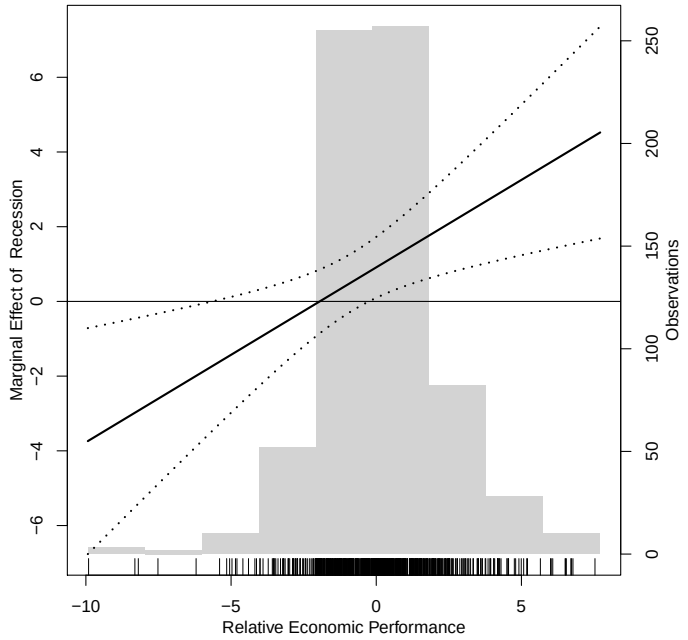


Figure 3.7: Marginal Effects of Recession

statistically significant at the .05 level ($p = 0.047$). In other words during recessions, countries with higher REP are more likely to increase expenditures. Figure 3.7 shows that at low levels of REP recessions are associated with negative expenditures, suggesting that at low REP austerity is more likely. But at higher values of REP recessions have a positive marginal effect on expenditures, suggesting that countries with higher rates of economic growth relative to their export markets are more likely to enact fiscal stimulus.

Overall, these results are not as robust as when the cyclically adjusted budget balance is used as a dependent variable, but expenditures is also an inferior measure of fiscal policy. Nonetheless, these results are broadly consistent with what Hypothesis 1 predicts, especially when REP is interacted with recessions.

3.8.2 Expenditures as Dependent Variable: Hypothesis 2

Table 3.8 estimates the effects of expenditures, conditional on various levels of REP, on the incumbent party vote share.

Table 3.8: Electoral Effects of Expenditures Conditional on REP

	Dependent variable:		
	Change in Incumbent Party Vote Share		
	(9)	(10)	(11)
REP × Expenditures	0.163	0.173	−0.037
	(0.311)	(0.427)	(0.375)
REP	−3.978**	−4.004**	−3.031
	(1.491)	(1.725)	(1.723)
Expenditures	−2.125**	−2.143*	−2.599**
	(0.822)	(1.010)	(0.916)
Change Real GDP		0.014	−0.135
		(0.419)	(0.352)
Interest Rates			1.397
			(0.825)
Constant	−5.480***	−5.420*	−4.356*
	(1.726)	(2.566)	(2.256)
Observations	16	16	16
R^2	0.397	0.397	0.490
Adjusted R^2	0.298	0.273	0.307
Note:			*p<0.1; **p<0.05; ***p<0.01
			Robust Standard Errors in Parentheses

Hypothesis 2 predicts that conditional on high (low) levels of REP, expenditures will have a positive (negative) impact on vote share. Although Table 3.8 does not provide statistically significant estimates. Although this does not provide support for the hypothesis, Figure 3.8 and 3.9 provides marginal effects plots with 95 percent confidence intervals.[12]

[12]Because I difference the variables, the x-axis represents changes in *REP* and *Budget*, respectively,

Figure 3.8 shows that at low values of *REP*, expenditure cuts are related to an increase in vote share – the marginal effect of a one unit increase in expenditures is associated with a decrease in vote shares, which implies that cuts are associated with an increase in vote shares. However, the figure does not show a statistically significant relationship for expenditure increases at high values of *REP*. But, as stated above, expenditures is a weaker indicator of fiscal policy than the cyclically adjusted budget balance. For this reason, most studies in economic use adjusted budget balances to analyze the effects of fiscal policy (Escolano et al., 2014).

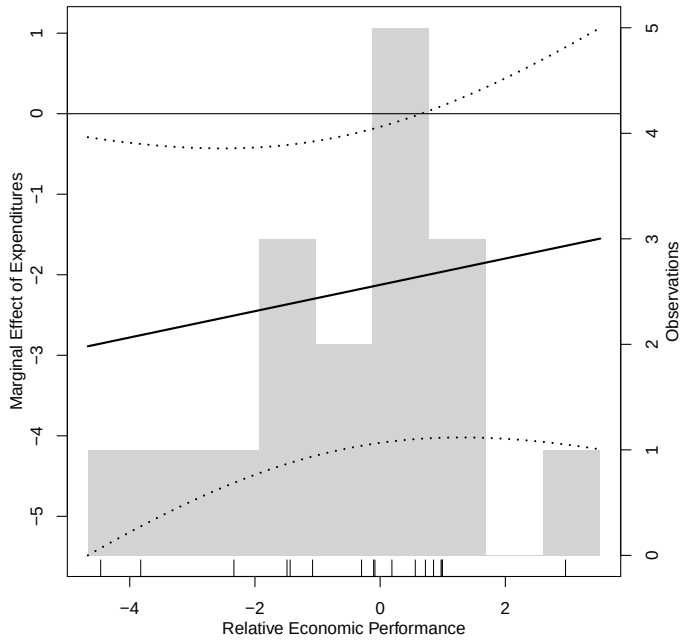


Figure 3.8: Marginal Effects of Expenditures

as recommended by (Berry et al., 2012).

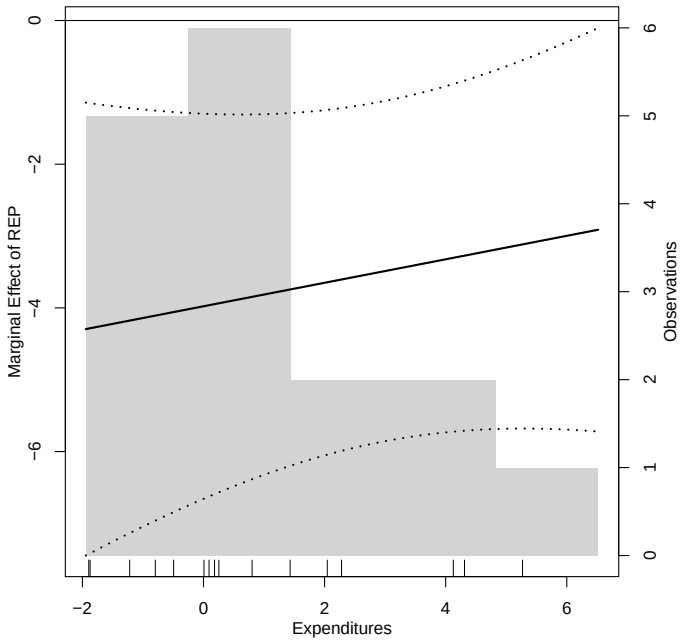


Figure 3.9: Marginal Effects of REP

3.8.3 Adjusting For Election Month

The analysis above allows fiscal policy anywhere between one and two years to affect the economy by the time of the election. This heterogeneity is caused by elections being held at different times throughout the year in different countries.This may create bias because each additional unit of stimulus may have much more time to operate in some cases than in others. I account for this heterogeneity by adjusting for the month the election was held. The median election year in the sample is June. If an election is held after June, I use changes in fiscal policy, conditional on *REP*, during the previous year, $t-1$. If an election is held during or before June, I use changes in fiscal policy, conditional on *REP*, with a two year lag, $t-2$. This gives fiscal policy roughly 18 months to affect voting behavior and reduces unobserved factors related to the election's timing. Table 3.9 presents the results.

Table 3.9: Electoral Effects of Budget Conditional on REP

	Dependent variable:		
	Change in Incumbent Party Vote Share		
	(1)	(2)	(3)
REP × Budget	−0.658**	−0.933***	−0.897***
	(0.297)	(0.250)	(0.283)
REP	−1.333	−2.577***	−2.497***
	(0.906)	(0.741)	(0.747)
Budget	−1.592	−1.221	−1.245
	(1.223)	(0.882)	(0.894)
Change Real GDP		−0.774***	−0.779***
		(0.187)	(0.190)
Interest Rate Spread			0.260
			(0.989)
Constant	−8.865***	−10.365***	−10.143***
	(2.538)	(2.106)	(2.160)
Observations	27	27	27
R^2	0.129	0.164	0.179
Adjusted R^2	0.110	0.134	0.139
Note:			*p<0.1; **p<0.05; ***p<0.01
			Robust Standard Errors in Parentheses

3.9 Supplementary Evidence: The Case of Estonia

Estonia pursued an austerity-led recovery strategy in response to the 2008 financial crisis. In 2008, Estonia was hit especially hard by the global financial crisis. According to the OECD, its real GDP fell by 5.3 percent in 2008. Real GDP fell a further 14.7 percent in 2009. The electoral prospects of then Prime Minister Andrus Ansip's Reform Party looked bleak. But rather than responding to the recession with a fiscal stimulus, as may be expected given electoral incentives in a country facing a severe downturn, Estonia enacted a large austerity package, which totaled roughly nine percent of GDP (European Commission, 2010). The theory developed in this chapter would predict that the Estonian government chose austerity policies, in part, in an effort to boost exports to markets whose economies were performing relatively better. Sweden and Finland were Estonia's top two export destinations for each year from 2008 to 2010. Table 3.10 shows the change in real GDP in Estonia, Finland, and Sweden from 2008 to 2010.

Table 3.10: Change in Real GDP in Estonia, Finland, and Sweden, 2008–2011

Year	Estonia	Finland	Sweden
2008	−5.3	0.7	−0.6
2009	−14.7	−8.3	−5.2
2010	2.5	3	6

Table 3.10 shows that Estonia's largest two export markets experienced milder recessions than Estonia.[13] In other words, Estonia had a low rates of economic growth relative to its top two export markets. Although these export markets were by no means performing well, Estonia still enacted contractionary policies, which may have been designed to boost exports. An IMF report notes that prices and wages in Estonia's tradable sector did indeed fall after contractionary fiscal policies were enacted (Kang and Shambaugh,

[13]Russia, which became Estonia's largest export market in 2015, also went through the 2008 global financial crisis relatively unscathed.

2014). To highlight the effects these policies had on its exports, Figure 3.10 plots total exports from Estonia to Finland and Sweden from 2007 to 2011.

Figure 3.10: Total Exports from Estonia to Finland and Sweden, 2007–2011

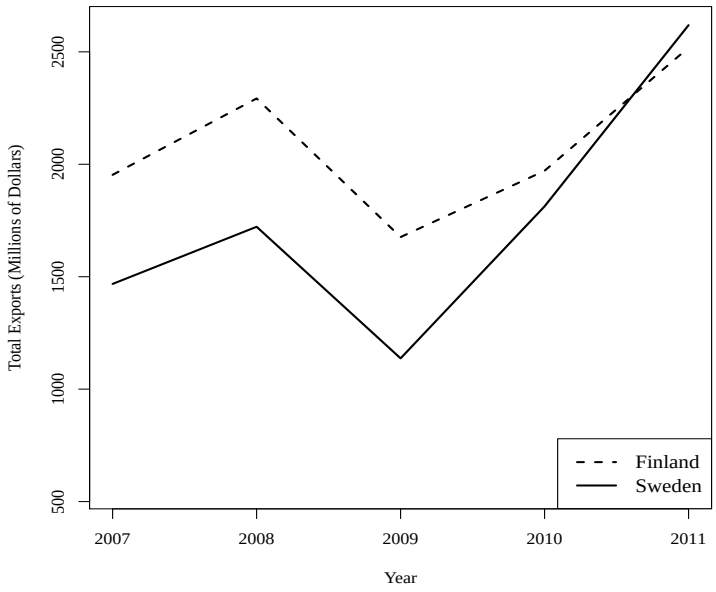


Figure 3.10 shows that after initially falling, Estonian exports rapidly increased to both Finland and Sweden. By 2010, exports to Sweden had recovered their precrisis levels; by 2011 exports to both countries surpassed their precrisis levels. Therefore, Estonia saw a boost in exports to these countries, even though they also saw economic downturns during 2008 and 2009. This is not to suggest that austerity policies in Estonia played a mono-causal role in its export-led recovery, but given that the policies were followed by a decrease in prices and wages in the tradable sector, they likely played a significant role in the quick rebound of exports. Recall from Table 2 that Estonia's real GDP turned positive in 2010. Even though much of the intellectual support for austerity was based on the role of expectations and confidence (Alesina and Ardagna, 2009), economic theory also suggests these policies would serve to boost exports. Indeed, popular presses such as The Economist (2011) credited Estonia's recovery to the boost in exports to Finland

and Sweden and focused much less on the role of confidence.[14] Despite the largely discredited argument that austerity can be expansionary by boosting confidence, we have theoretical and empirical evidence that suggests under certain conditions austerity can foster a recovery by making exports more competitive.

After the global financial crisis, the 2011 Estonian election looked dim for the incumbent majority party. But the party actually increased its majority, gaining two additional seats in parliament. Both the intricacies of the 2011 election and the decision to enact austerity are clearly multifaceted. For example, the partisan orientation of the government along with desires to join the eurozone, which it joined in 2011, likely also played a role in the fiscal policy decisions (Raudla and Kattel, 2011), as did the fact that Estonia faced balance of payments problems (Walter, 2016). But to the extent that the state of the economy drives voter behavior, Estonia's export-led recovery effort likely played a significant role in the incumbent party winning reelection. Absent this boost in exports, the government would have undoubtedly faced much more electoral difficulty.

This study does not seek to defend the potential virtues of austerity. It simply asks why politicians, with electoral incentives to enact policies that lead to economic recovery vary with respect to their fiscal policy decisions. This is not to suggest that politicians uniformly enact the electorally optimal policy and therefore win reelection – as stated throughout, and supported by the results in Table 3.2, politicians' reelection prospects following a recession are bleak. But the empirical results along with evidence from the case of Estonia suggests that politicians may push for contractionary fiscal policies under certain conditions – specifically, when their country's rate of economic performance is low relative to its export markets – and these policies may increase their electoral prospects. Estonia faced these conditions, enacted austerity policies, and the incumbent government

[14]Scholars have noted that despite GDP numbers rebounding, there were high social costs of austerity policies in Estonia. Unemployment, for example, remained stubbornly high through 2011 (Blyth, 2013).

won reelection.

Chapter 4

The International Foundations of Interest Group Influence

4.1 Introduction

International political economy research has long argued that the policy preferences of industries, interest groups, firms, and voters strongly influence economic policy choices (Frieden, 1991, 2014; Steinberg, 2015). But preferences are meaningless if actors lack the capabilities, or influence, to turn these preferences into policy. This chapter asks what allows those in certain industries to gain the ability to influence policy relative to those in other industries. I argue that influence, over a broad range of policies, stems from at least two major sources: revenue and employees. Increases in revenue may be used to provide campaign contributions and fund other lobbying efforts (Osgood et al., ming; Rogowski, 1989). Employers may also motivate their employees to mobilize for policies favorable to the firm (Babenko et al., 2016; Bearce and Tuxhorn, ming; Jensen et al., 2016).

Literature often posits that broad domestic economic (Gourevitch, 1986; Rogowski,

1989) or institutional shocks (Milner and Kubota, 2005) lead to policy change. But shocks seem neither necessary nor sufficient for policy change. For instance, assuming the largest financial meltdown in nearly 80 years constitutes a shock, one set of studies found few major shifts in policy preferences or coalitions as a result of the 2008 global financial crisis (Kahler and Lake, 2013). Furthermore, we often observe policies and attitudes shift absent any broad shocks. An annual Pew Global Attitudes survey, for example, found that in 2002, 78 percent of Americans agreed with the statement that "Growing trade and business ties with other countries is a good thing." By 2007 – before the financial crisis began – that number had dropped to 59 percent (Pew Research Center, 2014). Therefore, despite a rich literature on policy preferences, we know relatively little about the dynamic processes that allow certain actors to see their preferences turned into policy. These processes are central to our understanding of policy change.

This chapter seeks to further our understanding of these processes. I argue that international factors – namely, the performance of economies abroad – are key determinants of policy influence. Increased demand abroad may increase revenues for firms in export-intensive industries. Actors in these industries may then use these revenues to both increase lobbying efforts and to hire more employees from firms in industries that are less likely to export. Through the lobbying and employment channel, I argue that economic growth abroad is likely to increase the political influence of firms in export-intensive industries. By linking interest group influence at home with economic conditions abroad, this chapter provides a clearer picture of economic policy choices. This international element is commonly lacking in IPE scholarship, where much research remains focused on domestic-level interests and institutions to explain policy outcomes (Cohen, ming; Oatley, 2011). This chapter shows that international factors strongly shape firms' lobbying capabilities as well as overall employment trends and are thus likely to be central drivers of policy choices.

The rest of this chapter is organized as follows. Part two discusses the role that firm revenue and employment can play in shaping political influence. I then argue that economic shocks are neither necessary nor sufficient to lead to policy change. Part four then argues that foreign economic conditions play an important role in shifting the relative distribution of potential political influence within a country, which can lead to policy change. Part five tests this study's main hypotheses with cross national panel data and an analysis of lobbying efforts in the United States. Finally, I discuss this chapter's implications.

4.2 Influence: Revenue and Employees

In democracies, a firm's ability to influence politicians largely comes from two sources: money and voting age employees.[1] Although many scholars have argued that the causal link between campaign contributions and policy outputs or political access is inconclusive (Ansolabehere et al., 2003; Baumgartner et al., 2009), recent research has found that economic elites and organized business groups most likely have a larger impact on policy than other groups, such as voters at large or smaller businesses (Gilens and Page, 2014; Page et al., 2013). In the United States, campaign contributions are generally argued to provide access to policymakers (Kalla and Broockman, 2015; Page et al., 2013). Other research has found that the source of these donations shape policy outputs (Barber, 2016). These findings are in line with studies of European countries, which also find that business interests tend to have more influence on policy than non-business interests (Mahoney, 2007; McMenamin, 2012). Therefore, recent literature confirms our intuition that those who donate millions of dollars to political campaigns do, in fact, receive some return on their investment.

[1] In what follows I equate power with influence, similar to a recent study by Baldwin (2016), and use the terms interchangeably.

But wealthy interest groups may have heterogeneous policy preferences. For example, if financiers and manufacturers have conflicting policy preferences, which group is more likely to see more preferable policies implemented? Several studies suggest that the amount of money generated by the financial services industry give it a disproportionately large amount of political influence (Hacker and Pierson, 2011; Strange, 1998). One recent study, for example, found that when countries remove capital controls, the financial sector becomes better positioned to gain more favorable policies (Tomashevskiy, 2015). This occurs largely because when capital flows into an economy, financiers have more funds that they can use to pressure politicians. If the financial sector performs well relative to manufacturers, either because of revenue gains in the financial sector or revenue declines in manufacturing, this research suggests that policymakers may become more inclined to enact policies favorable to financiers. Therefore, much literature shows that those who gain monetary resources relative to others are better positioned, and more likely, to see favorable policies enacted.

Insights from behavioral economics argue that actors will push harder when in the realm of losses rather than in the realm of gains. In other words, those that are losing influence relative to others may be more likely to intensify their lobbying efforts. If manufacturers lose revenues relative to financiers, for example, prospect theory argues that manufacturers would intensify their lobbying efforts in order to win more favorable policies to help recoup previous losses (Kahneman and Tversky, 1979; Mercer, 2005). But relative growth in an industry may allow actors in the growing industry to bear more costs than competing interest groups (Schlozman et al., 2012). Although psychological factors undoubtedly play an important role, it seems safe to assume that actors that gain revenues relative to others will be able to match any additional lobbying efforts enacted by those with competing interests.

A firm or industry that is gaining economic strength, or revenues, relative to another is

also likely to increase employment relative to those with competing interests. Generally, an increase in demand for a firm's goods will lead the firm to increase employment of both labor and capital; the possibility that a firm responds to an increase in demand by solely increasing the intensity of capital investments is discussed below. And there is reason to believe that employees will mobilize on behalf of their firms.

This intuition is inherent in the Ricardo-Viner model, which is often used to describe actors' preferences (Broz and Werfel, 2014; Frieden, 1991, 2014; Steinberg, 2015). This model suggests that labor and capital within a specific industry will share similar economic policy preferences. Industries that export are likely to push for trade liberalization, while import-competing industries may lobby for protection. This model is often contrasted with the Hecksher-Ohlin model, which argues that labor and capital will have divergent policy preferences. Hiscox (2001, 2002) argues that the level of labor mobility between industries determines which model more accurately describes reality. When labor can freely move between industries, coalitions are more likely to be class based; when labor is less mobile, coalitions are more likely to be industry based. It is often assumed that over the long term labor is free to move between industries, but labor is less mobile over relatively short time horizons. The Ricardo-Viner model, which is generally used to describe preferences over relatively short time horizons, supports the expectation that employees are likely to lobby on behalf of their firms because both labor and capital within a specific industry may share policy preferences.

Survey evidence largely supports the argument that employees hold policy preferences in-line with their firms' material interests (Bearce and Tuxhorn, ming). Additionally, employees in firms that are performing well, such as export-oriented firms that benefit from globalization, tend to support incumbents at a higher rate than workers in firms that are losing market share due to globalization (Jensen et al., 2016; Margalit, 2011). This suggests that incumbents have strong electoral incentives to push for policies that

allow firms to perform well. Although several of these studies are at the firm level, and the Ricardo-Viner model is at the industrial-level of analysis, both strands of research provide evidence that employees and their employers share overlapping preferences toward international economic policy.

Firms may seek to reinforce the idea to their employees that they share material preferences. In a survey of firms in the United States, Hertel-Fernandez (ming) finds that nearly half of the firms surveyed acknowledged distributing politically-based material to their employees. This material seems to be effective. About a quarter of the employees surveyed responded that the political information provided by their employer changed their opinion on at least one issue. This supports an earlier study that showed that job supervisors were generally successful in convincing employees to become politically involved (Schlozman et al., 2012, Pg. 471). Other research has shown that employees tend to follow the political viewpoints of their CEOs, even after the political ideology of their CEO exogenously changes from an unexpected turnover, such as a death (Babenko et al., 2016). Therefore, much research suggests that employees are likely to mobilize politically, or vote, for policies favorable to their employers.

Although laws have been put in place to limit the amount of political influence management may exercise over their employees, firms have long found loopholes to get around these laws (Hertel-Fernandez, ming). The ability of firms to pressure employees to participate in politics has increased in the United States since the *Citizens United* ruling removed restrictions on such practices (Harvard Law Review, 2014). Even though theory and survey evidence suggests employees and their employers have overlapping policy preferences, evidence of management seeking to persuade their employees toward particular political viewpoints suggests that firms often seek to ensure that their employees mobilize to push for policies favorable to their firms.

Employers may also *indirectly* shape the likelihood that their employees mobilize

or vote on their firms' behalf. Much evidence suggests that the state of the economy, largely through its effect on employment, is among the strongest predictors of voter behavior (Achen and Bartels, 2016; Bartels, 2014; Hibbs, 2000). Workers that have recently lost their jobs are more likely to vote against the incumbent party (Margalit, 2011). Firms may use the fact that employment is an important driver of vote choice to influence policies. For example, employers may threaten to move jobs abroad, which would result in higher local unemployment rates and thus harm incumbents' reelection prospects (Frieden and Rogowski, 1996). Therefore, if firms maintain or increase levels of employment, its employees are more likely to support incumbents; laid off workers are more likely to vote against incumbents. Thus even if employers cannot directly mobilize their employees to vote in their interest, they can indirectly pressure politicians through threats of layoffs.

4.2.1 What Shifts Revenue and Employment Trends?

Conventional wisdom holds that crises are harbingers of change (Chwieroth, 2010b; Gourevitch, 1986; Kahler and Lake, 2013; Olson, 1982; Rogowski, 1989). Crises may lead to change by exposing cleavages between groups that were previously only weakly united on policies. The widening of these cleavage may then allow new coalitions, with new interests, to form (Gourevitch, 1986). Crises may provide space for policy (or norm) entrepreneurs to push for new political agendas that reflect the preferences or ideologies of these newly defined coalitions (Chwieroth, 2010b; Culpepper, 2008). Shocks may push employees from one sector of the economy to another, which may lead them to form political alliances with new groups and favor policies that they may have previously opposed. Although this movement across industries is more of akin to a Heckscher-Ohlin model, the logic of this chapter is not solely based o a Ricardo-Viner model.

Crises may also change domestic institutions (Culpepper, 2008). Institutional change may result in dramatic policy shifts because actors that benefit from new institutional contexts become more likely to see favorable policies implemented (Lake, 2009). For instance, Milner and Kubota (2005) argue that the move toward democratization in the developing world increased the likelihood that policymakers would enact policies more favorable to the workers that made up the majority of these societies. Less democratic institutions, which were previously more common throughout the developing world, could more easily ignore the demands of these non-elite actors (De Mesquita and Smith, 2005). Therefore, crises may lead to policy change with institutional change as an intervening variable.

These studies imply that absent any broad economic or institutional shocks, we should expect to see relatively stable policies and policy preferences over time. Stable coalitions should not push for change and policy entrepreneurs are unlikely to have a strong platform from where they may push for ideational change. Yet change is often observed absent any broad domestic economic or institutional shock. In 2016, for example, the generally pro-free trade Republican Party in the United States nominated a candidate who strongly opposed free trade agreements. Furthermore, a set of studies showed that after the 2008 financial crisis, coalitions and did not immediately shift (Kahler and Lake, 2013). The so-called neoliberal agenda, which favors free capital mobility and deregulation, among other policy prescriptions, remained largely intact following the crisis, even though the financial crash may have been interpreted as a failure of the agenda's policy prescriptions (Stiglitz, 2016). Coalitions may have shifted as a result of the crisis with an eight year time lag, but literature on how crises lead to change generally suggests change will occur shortly after a crisis. Chwieroth (2010b) acknowledges this temporal process, but argues that we should see experimentation with new policies and institutions quickly after a crisis. Furthermore, as noted in the introduction, individual attitudes toward policies

such as free trade may shift dramatically absent any shock. Taken together, it seems that neither domestic economic nor institutional shocks appear to be necessary or sufficient to shift lobbying capabilities and employment trends within a country.

4.3 International Origins of Power

Revenue and employees are key sources of political influence. The above literature suggests that when revenues and employees flow from one segment of the economy to another, we are more likely to observe policy change favorable to firms that gain revenue and employees relative to others. But if shocks are neither necessary nor sufficient to shift revenue and employees across an economy, what explains variation in political influence?

First, we must more clearly define the actors. Literature that analyzes actors' preferences regarding foreign trade nearly always distinguishes between actors by who stands to benefit from liberalization, on one hand, and those who may benefit from protection, on the other. Although much of the literature focuses on either factors of production, specific industries, or firms, all of this is in an attempt to unearth who stands to benefit or lose from specific economic policies. Accordingly we may follow a conventional practice (Frieden, 1991, 2014) that divides actors between those with internationally-oriented interests and those with domestically-oriented interests.[2] The former are likely to seek policies designed to boost exports while the latter may favor policies designed to protect producers of goods and services to be sold in the domestic economy.

Elementary supply and demand analysis tells us that the price of a good or service tends to rise with demand. In response to rising demand, firms generally increase out-

[2]Industrial-level analyses tends to define these competing interests as those in the tradable and those in the non-tradable sector or between exporters and import-competing industries. However, firm-level analyses have pointed out that several firms in the tradable sector do not export (Osgood et al., ming). For analytical clarity, I define groups as those with internationally-oriented interests, or those that are likely to export, and those with domestically-oriented interests, or those less likely to export.

put. Assuming that labor and capital inputs are not perfect substitutes in the firm's production function, a higher price increases the value of the marginal product of labor, which encourages the firm to hire more employees. Although intuition may suggest that higher demand for a product may lead firms to substitute toward capital investments and away from labor, as long as the relative prices of a firm's inputs remain steady, firms will generally increase their employment of labor and their other inputs by more or less equal proportions as they seek to boost output.[3] In other words, the level of demand influences firms' output levels, which then affects firms' hiring decisions. Firms that experience growing demand for their goods or services are likely to increase both revenue and employees, which, as argued above, are key sources of political influence.

Aggregate demand is generally defined in terms of gross domestic product (GDP).[4] Assuming a firm produces normal goods – demand for the good increases with income – a rise of GDP may be expected to increase demand for the firm's goods or services as well. But we may gain further insight into who gains a potential for influence by distinguishing between domestic and foreign demand, as these may not fluctuate in unison.

An increase in GDP in major foreign markets may increase demand for a country's exports. As exporting firms increase output in response to higher demand, they are likely to increase employment. This may then result in employees moving from non-exporting firms to exporting firms. Furthermore, as firms increase output to meet higher demand they will have more revenue that they can use to lobby policymakers. Therefore, economic growth abroad may better position actors with internationally-oriented interests to influence policy.

If domestically-oriented actors produce goods and services that do not compete with imports, declining foreign GDP may lead demand at home for domestically-oriented

[3]This is known as the scale effect.

[4]Aggregate demand and GDP are the same if prices are fixed.

goods to rise relative to demand for exports. A relative increase in domestic GDP may also cause the real exchange rate to appreciate, which would further decrease demand for a country's exports. In this scenario, demand for goods and services sold in the domestic market would rise relative to goods whose demand emanates from abroad. Here we would expect revenues to rise for those with domestically-oriented interests relative to those that benefit from exports. Because declining GDP abroad is likely to decrease exports, export-intensive industries may decrease employment, leading employees to flow from exporting industries to non-exporting industries. Thus declining GDP abroad may lead actors with domestically-oriented preferences to gain sources of influence relative to those with more internationally-oriented preferences.

Distinguishing between changes in GDP at home versus changes in GDP in a state's major export markets provides insights into whether domestically-oriented or internationally-oriented actors are more likely to see demand for their goods and services rise. Rising demand may result in increased revenues and the movement of employees across the economy. If growth abroad increases the demand for a country's exports, we would expect exporters to gain sources of influence relative to those that sell their products in the domestic market.

This chapter argues that growth abroad leads to more revenue for exporters relative to others in the domestic economy. With more revenue firms can seek to influence policy through two channels: employment and lobbying. Formally, this process may be stated in the following three hypotheses:

Hypothesis 1: *Economic growth abroad leads to increased revenue for exporters relative to those in other industries*

Admittedly, Hypothesis 1 is more akin to a premise than a hypothesis. But because it is both testable and central to the following two hypotheses, I test it independently. The remaining hypotheses are:

Hypothesis 2: *Increased revenue for exporters leads to more employment in export-oriented industries relative to other industries*

Hypothesis 3: *Increased revenue for exporters leads to more lobbying by exporting industries relative to other industries*

4.4 Data and Evidence

I test Hypotheses 1 and 2 using data on 34 OECD countries over the time period 1980 to 2013. A full list of these countries is available in Appendix 1. Although not all of these countries were members of the OECD over the whole time period, I include each of these countries for each year in which data are available in this chapter's analysis. Because of limitations of lobbying data, I test Hypothesis 3 with an analysis of the United States.

4.4.1 Revenue

To capture revenue, I use *exports* as a percentage of GDP. Revenue is generally seen as synonymous with sales; if exports rise as a percentage of GDP, revenue for exporters must rise relative to others in the economy. I use both the absolute level of exports and the percent change from the previous year. Data for this variable come from the World Bank national accounts data.

Revenue, or exports, are hypothesized to co-vary with the rate of economic growth in each country's export markets. Rather than simply taking the average rate of growth abroad, or change in global GDP, I operationalize the independent variable as the trade weighted change in real GDP in each country's export markets. This accounts for the fact that growth in a main export market is likely to have more of a domestic impact than growth in a more peripheral market. To measure economic growth, I use the percent change in real GDP, provided by the World Bank. For the trade weighting measure, I

use IMF direction of trade statistics. Although this study limits its analysis to OECD countries, I use all possible export destinations for these countries wherever data are available. Between 1980 and 2013 the minimum number of export destinations is 124 countries, while the maximum is 190 countries and the median number of export destinations over the 34 year time period is 182 countries. In total there are 5,767 country-year observations for export markets over the time period.

To calculate this variable, *GDP Abroad* for each year, I put the 34 OECD countries of interest into rows and their export destinations into columns. I then put each of these matrices together into a matrix, **W**, that is in the form of a block diagonal where each block represents a year. I then row standardize **W** and matrix-multiply it by the vector of the percent change in real GDP for each export country for each year.

This variable does not distinguish between countries that have signed preferential trade agreements (PTAs) and those that do not. Although debate exists on whether free trade agreements are endogenous to the amount of exports (Rose, 2004; Tomz et al., 2007), the positive relationship between trade and PTAs is robust. By using total exports between countries, PTAs are likely captured by this measure.

To test Hypothesis 1, I use standard macroeconomic control variables that may also affect exporters' relative revenue. I include a variable for the change in domestic real GDP, as this may affect economic growth abroad and exports as a percentage of GDP. I include a variable for logged *GDP per capita* to control for variation in the behavior between richer and poorer countries. I also control for *inflation*.

Finally, to control for political parties favoring different industries, I include a variable for the partisan orientation of the executive. Where dummy variables are included for *Right Exec.*, *Center Exec*, and *Undefined Exec.* Left executives thus serve as the baseline group. I also include a dummy variable indicating whether a country has proportional representation, denoted below as *Prop. Rep.* Data for these variables come from the

World Bank political institutions database (Beck et al., 2001).

To control for unit and year specific heterogeneity I use OLS with country specific fixed effects. Fixed effects control for various unobserved factors. For example, interest group bargaining is shaped by corporatism in European countries (Lijphart, 1999). The inclusion of fixed effects will control for these broad institutional factors, provided they were invariant over the time period of this chapter's analysis. I also include, but do not present the results for, a cubic polynomial to control for broad time trends. To test the first hypothesis, I estimate the following equation:

$$Exports_{i,t} = \beta_1 W \times GDP_{i,t}^{Foreign} + \sum_{k=1}^{n} \gamma_k X_{k,i,t} + \alpha_i + \varepsilon_{i,t} \tag{4.1}$$

Where the dependent variable is exports, I take the natural log because the variable is heavily skewed to the right. β_1 estimates the effect of the trade weighted change in GDP abroad, where W is a row-standardized matrix that captures the amount of exports from state i to state j and $GDP_{i,t}^{Foreign}$ captures change in GDP abroad. X is a vector of control variables, with k indexing the n control variables. α_i captures the country specific fixed effects and η_i captures the year specific fixed effects. I also estimate a separate model where the logged percent change in exports is used as the dependent variable rather than the logged level of exports as a percentage of GDP.

Reverse causality does not present itself as an obvious problem for identification. It is unlikely that increases in an industry's exports also causes GDP abroad to rise – imports tend count against a country's total GDP, so an increase in exports could only serve to worsen a country's trade partners' GDP. Table 4.1 presents the results.

Table 4.1 supports Hypothesis 1. The rate of GDP growth abroad is positive and statistically significant across all models, holding other variables constant. Model one shows that a one percent increase in the trade weighted GDP abroad is associated with

Table 4.1: Exports as a Function of Growth Abroad

	Dependent variable:					
	Exports (log)			Change Exports (log)		
	(1)	(2)	(3)	(4)	(5)	(6)
GDP Abroad	0.019***	0.018***	0.019***	0.020***	0.019***	0.019***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
GDP Per Capita (Log)	−0.141***	−0.118**	−0.141***	−0.147***	−0.120**	−0.153***
	(0.050)	(0.053)	(0.053)	(0.051)	(0.054)	(0.053)
Inflation		0.0004	0.0005		0.001**	0.001**
		(0.0005)	(0.0004)		(0.0004)	(0.0004)
Center Exec.			0.004			0.017
			(0.032)			(0.032)
Right Exec.			−0.008			−0.007
			(0.022)			(0.022)
Undefined Exec.			0.014			0.024
			(0.067)			(0.071)
Eurozone			−0.002			−0.006
			(0.043)			(0.043)
PR			−0.169***			−0.173***
			(0.036)			(0.034)
Observations	1,045	992	900	1,015	965	876
R^2	0.561	0.558	0.568	0.581	0.584	0.580
Adjusted R^2	0.540	0.536	0.541	0.559	0.560	0.551

Note: *p<0.1; **p<0.05; ***p<0.01
Cluster robust standard errors in parentheses

a 1.9 percentage point increase in exports as a percentage of GDP.

This is a substantively strong relationship. Over the time duration of the sample, exports made up about ten percent of the United States' GDP. According to the model, a one percentage point increase in growth abroad would boost US exports to 11.3 percent of GDP. Because the US economy is so large, at $16.77 trillion in 2013, an increase of 1.9 percent is substantial – an increase of about $318.6 billion.

Including control variables leaves the results largely unchanged. The estimate remains both statistically and substantively significant across the models. This provides strong evidence that economic growth abroad increases the revenue of exporters relative to others in the economy. However, this result tells us little about how exporters may turn this revenue into political influence. The next two sections explore the effect revenue has on employment and lobbying.

4.4.2 Employment

Hypothesis 2 states that an increase in revenue is associated with an increase in employment in industries most likely to export. However, exports could potentially be endogenous to employment decisions. For example, a policy could be passed that is favorable to exporters, which leads exporting firms to increase employment. Furthermore, this chapter is interested in the effect of GDP growth abroad on employment decisions. Thus we are interested in how the variation in exports explained by growth abroad predicts employment rates in export industries. I use two stage least squares, using the rate of GDP growth abroad to instrument for exports. As a robustness check, available in Supplementary Appendix 1, I use the difference between foreign and domestic GDP growth as a predictor of exports. These results are available in the supplementary appendix.

Formally, I estimate the following system of equations:

$$Exports_{i,t} = \beta_1 W \times GDP_{i,t}^{Foreign} + \sum_{k=1}^{n} \gamma_k X_{k,i,t} + \alpha_i + \varepsilon_{i,t} \tag{4.2}$$

$$Employment_{i,t} = \beta_1 Exports_{i,t} + \sum_{k=1}^{n} \gamma_k X_{k,i,t} + \alpha_i + \varepsilon_{i,t} \tag{4.3}$$

Note that (2) is equivalent to (1), although I use different control variables because likely confounding variables are different with employment and exports as the dependent variable. As above, I take the natural log of *Exports* because the variable is heavily skewed to the right. The dependent variable used to test Hypothesis 2 is employment in exporting industries. Although firms may not directly mobilize their employees to vote in their favor, much evidence abounds that employees care primarily about keeping their jobs (Jensen et al., 2016). If firms are adding additional employees we may presume that these employees will support policies that benefit the firm insofar as these policies allow them to keep their jobs. I use sectoral data to infer which sectors are most likely to export.

Evidence suggests that large firms, especially in manufacturing, are responsible for most of the hiring and firing of workers (Davis et al., 1996). When times are good for large firms they are able to add employees to their payrolls. But when the good times stall they are quick to layoff employees. Although large firms may be responsible for most hiring and firing decisions, we cannot assume that they have full control over their employees' preferences. Given the link between employment and the likelihood of voting for an incumbent, however, large firms likely hold much indirect influence over incumbents – firms can threaten to fire workers and move operations overseas regardless of the state of the economy. Furthermore, as stated above, firms are likely to have heterogeneous preferences toward international economic policy. Because not all large

firms depend on exports, it is unlikely that large firms will always prefer policies favorable to exporters. But all else equal, large firms will likely have more influence over policy than smaller firms. And evidence suggests that large firms are typically the ones that will export (Madeira, 2014). Following Osgood et al. (ming) I define export sectors as manufacturing, mining, and agriculture.

These industries, especially manufacturing, have several characteristics that would allow them to successfully pressure governments (Steinberg, 2015). In a study of exchange rate policy, Steinberg (2015) argues the manufacturing sector is well situated to have political influence. The sector is relatively concentrated to facilitate collective action and in several countries, it controls a large proportion of economic resources, resulting in a high employment rates. Thus, the manufacturing sector carries a large amount of political influence (Steinberg, 2015). Other sectors, such as mining and agriculture, also often consist of a small number of large firms, which facilitates collective action (Olson, 1965). But because these industries may be more geographically diffused than manufacturing they are unlikely to be driving the results.

I operationalize the concentration of employment in these industries in each country as the change in total employment in these three industries as a proportion of total employment in each country. These data come from the International Labor Organization (ILO). More formally, I use the sum of employment in these three industries divided by the sum of employment across every industry for which the ILO provides data. But, not all firms, even in export-oriented industries export. Therefore, there may be growth in firms in these industries that do not export and thus may not pressure governments to enact export-friendly policies. However, as stated above most large firms in export-industries export. These large firms are responsible for most hiring and firing in industries such as manufacturing (Davis et al., 1996). Therefore, employment gains in an export-oriented industry are likely to be driven by large firms, which are more likely to export.

I use two versions of this employment concentration variable. The first is the raw proportion of employees in exporting industries; the other is the annual percent change of total employees in exporting industries. In the models where the dependent variable is calculated as a percent change, the independent variable is also calculated as a percent change.

The control variables in this model are slightly different than those used to test Hypothesis 1. Unions largely affect the ability of firms to hire and fire workers. In countries with high *Union Density*, employees may be less likely to move from an industry performing relatively poorly to one performing comparatively well. Therefore, I include a variable that captures the proportion of paid workers who are members of unions. Data for this variable comes from the OECD.

I also control for domestic *GDP Per Capita*, as country size may influence both the level of exports as a percentage of GDP and employment in export related industries. Due to missing data, the variable for *Proportional Representation* is absorbed in the country fixed effects.

Table 4.2 provides the results.

Hypothesis 2 predicts that an increase in exports will lead to a higher proportion of employment in export industries – defined here as manufacturing, agriculture, and mining. The models that just use a time trend and the key independent variable are not significant in any of the models, although they are in the correct direction. However, the models are correctly signed and statistically significant after including various controls.

Model 6 in Table 4.2 shows that a one percent increase in exports is associated with a .0003 increase in the proportion of those employed in an export industry.[5] This effect does not seem particularly large, although the estimated effect is larger when using growth

[5]The result is nearly identical when not using the change in domestic real GDP in the first stage regression.

Table 4.2: Employment as a Function of Revenue, 2SLS

	Dependent variable:							
	Prop. Employed (Proportion)				Prop. Employed (Pct. Change of Proportion)			
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Exports (IV)	0.035**	0.035***	0.114***	0.087***				
	(0.015)	(0.013)	(0.035)	(0.029)				
Pct. Change Exports (IV)					0.027*	0.027**	−0.029	0.083***
					(0.016)	(0.013)	(0.024)	(0.029)
GDP Per Capita (Log)	−0.022***	−0.021**	−0.025**	−0.018**	−0.022**	−0.021**	−0.025**	−0.021***
	(0.008)	(0.010)	(0.012)	(0.008)	(0.008)	(0.009)	(0.011)	(0.007)
Inflation		0.0004	0.001	0.0003		0.0003	−0.0003	0.0004
		(0.001)	(0.001)	(0.001)		(0.001)	(0.001)	(0.001)
Imports (Log)			−0.078**	−0.047			0.027	−0.053*
			(0.036)	(0.029)			(0.021)	(0.029)
Union Density				0.001*				0.001*
				(0.001)				(0.001)
Center Exec.				−0.0002				−0.001
				(0.003)				(0.004)
Right Exec.				−0.004**				−0.003
				(0.002)				(0.002)
Undefined Exec.				0.0001				0.005
				(0.008)				(0.007)
Observations	322	322	322	308	296	296	294	283
R^2	0.847	0.848	0.790	0.829	0.847	0.847	0.843	0.825
Adjusted R^2	0.763	0.761	0.707	0.730	0.756	0.753	0.746	0.717

Note: *p<0.1; **p<0.05; ***p<0.01
Cluster robust standard errors in parentheses

abroad to instrument for exports while remaining statistically significant. However, the effect may reflect a substantial movement of workers to export-oriented industries.

From World Bank estimates, in 2013 about 17.26 million people were employed in Spain.[6] The results in Model 6 suggest that a one percent increase in growth abroad would be associated with a move of more than 51 thousand people to export-oriented industries. Although the estimate of 0.003 seems small, the large numbers involved suggest small changes in the proportion of workers in an export-oriented industry would have substantively large results.

Other control variables do not have an clearly stronger effect on the proportion of employment in export-oriented industries. The level of GDP per capita has a slightly smaller effect than exports on employment in export industries. An increase in inflation is also negatively associated with employment in exporting sectors. This relationship makes sense, given that higher prices without an offsetting exchange rate adjustment will likely reduce exports and revenue to hire employees.

The results in Tables 4.1 and 4.2 provide strong evidence that growth abroad is associated with more revenue and employment in export industries. But do exporters also use this extra revenue to directly influence policy through lobbying?

4.4.3 Lobbying: The Case of US Exporters

Laws in the United States require lobbyists to register and report the amount of money they spend on lobbying efforts.The Center for Responsive Politics tracks several domains of where money is donated, including the amount of money various interest groups spend in a given year. We can look at specific sectors and observe how much money they spent in each year on various lobbying efforts. Data are generally available

[6]The World Bank estimates that 23,419,920 people were in Spain's labor force. The unemployment rate was 26.3 percent. The total number of employed individuals is then 23,419,920×(1-.263).

annually from 1998 to 2016. To my knowledge, there is no comparable data set in other OECD countries, making cross national comparisons difficult.

The industries are defined slightly different than the ILO's definition, used above. I define export industries from this data as follows: miscellaneous manufacturing, chemical manufacturing, lodging/tourism, steel production, textiles, oil and gas, miscellaneous energy, mining, and fisheries and wildlife. These categories are consistent with the definition used above, which is common in the literature Osgood et al. (ming).

Although these data are at the industry level – and not all actors in the industry export – the data show which companies make the largest donations. In 2015, General Electric was the biggest donor in the category of miscellaneous manufacturing. GE donated donated $20,880,000 while the industry total in 2015 was $105,904,266 – or nearly 20 percent of the industry total where 294 clients gave donations. As stated above, new trade theory predicts that large firms are most likely to export. These large industries, in an export-intensive industry also dominate lobbying. Therefore, within industry-level data it is reasonable to infer that the firms within these industries that are driving the amount of lobbying also export.

To test Hypothesis 3, I estimate the following equation:

$$Lobbying_t = \alpha + \beta_1 Exports_t + \sum_{k=1}^{n} \gamma_k X_{k,t} + \varepsilon_t \tag{4.4}$$

Although a two stage least squares approach would be desirable to test Hypothesis 3 – as it was to test Hypothesis 2 – GDP growth abroad is not a strong predictor of exports in the United States.[7] Therefore, two stage least squares would suffer from the weak instrument problem.

The dependent variable, lobbying, is calculated by taking the total donations of these

[7]Although Table 4.1 shows that it is, on average, a strong predictor.

export-intensive industries and dividing this value sum by the total amount of donations for each year over the time period. I divide by the total amount of donations because the secular trend toward more lobbying over time – especially after the Citizens United decision – would make the donations from the export-intensive industries increase regardless.

The key explanatory variable is *Exports* as a proportion of GDP. Because this variable only comes from the United States, it is not heavily skewed and thus I do not take the natural log. I include other control variables that may also predict both exports and the amount of lobbying donations from export-sectors.

As *Imports* increase import-competing sectors or firms that use imports as inputs may increase their lobbying efforts, thus pressuring exporters to further increase political donations.

Partisanship, or *Republican Exec.*, may affect both lobbying and exports as one party may be more likely to pass policies favorable to the export sector and thus gain more donations from those in the sector.

Economic growth may also affect lobbying decisions as well as the total number of exports. Therefore, I include a variable, *Change Real GDP*, to capture annual economic fluctuations, which may affect both exports and lobbying.

Finally, the money supply is a key factor that shapes the exchange rate, which may also affect exports, and therefore, lobbying by exporters.[8] Therefore, I include a variable for *M2* to capture shifts in the money supply and *inflation* to capture shifts in price levels. Table 4.3 presents the results.

The models throughout Table 4.3 consistently show that exports are positively related to lobbying by the export sector. The first model shows that a one percentage point increase in exports as a percentage of GDP is associated with a .006 increase in the

[8] Although the US Federal Reserve is nominally independent, exporters may lobby for policies designed to offset Fed policies that may damper exports.

Table 4.3: Lobbying as a Function of Revenue

	Dependent variable:			
	Lobbying by Export Industries (Proportion of Total Lobbying)			
	(15)	(16)	(17)	(18)
Exports	0.006***	0.010***	0.010**	0.008**
	(0.001)	(0.003)	(0.004)	(0.003)
Imports		−0.005**	−0.005*	−0.005*
		(0.002)	(0.003)	(0.003)
Republican Exec.		−0.003	−0.002	−0.009
		(0.006)	(0.006)	(0.006)
Inflation			−0.001	0.003
			(0.002)	(0.002)
M2				−0.0003
				(0.0005)
Change Real GDP				−0.002**
				(0.001)
Constant	0.046***	0.084***	0.080***	0.105***
	(0.014)	(0.013)	(0.014)	(0.016)
Observations	18	18	16	16
R^2	0.586	0.844	0.854	0.913
Adjusted R^2	0.560	0.811	0.801	0.855
Note:				*p<0.1; **p<0.05; ***p<0.01
				Robust standard errors in parentheses

proportion of lobbying by exporters. Given the large amount of money donated, this is substantively significant. The average annual amount of donations over the time period is about $2.58 billion, meaning a one percentage point increase in exports as a percentage of GDP is associated with $15.48 million more donated.

Given the small number of observations, these results should be taken cautiously. Nonetheless, for such a small sample the model fits the data very well, as the adjusted r-squared ranges from 0.586 to 0.9. This strong model fit and relationship between exports and lobbying by export industries, suggests that the industries defined above as export-intensive do indeed lobby for policies favorable to exporters.

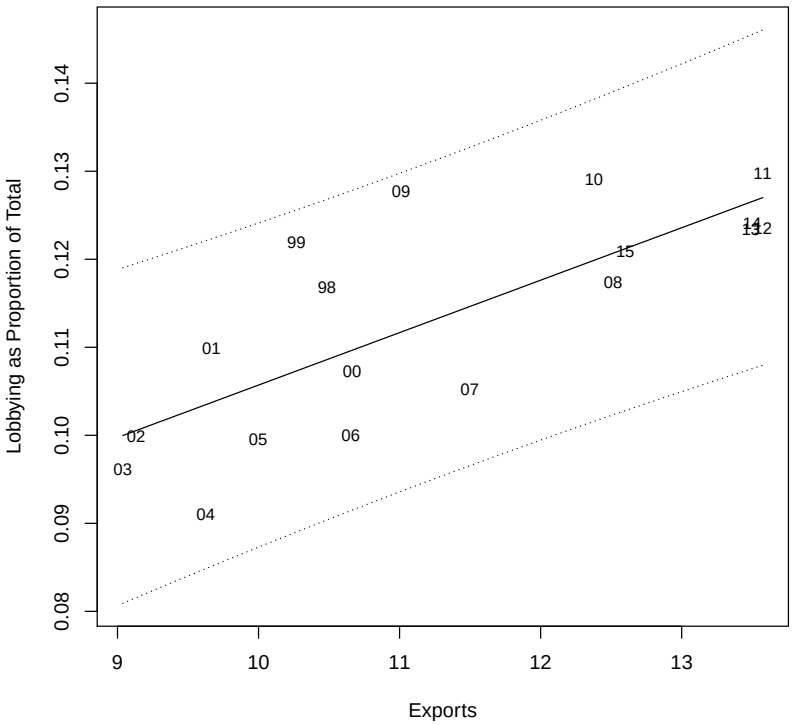
To highlight the strong relationship between exports and lobbying of exporters Figure 4.1 shows the annual proportion of donations by exporter-intensive industries from 1998 to 2015 with a 95 percent confidence interval and the line of best fit from the first model in Table 4.3 with each year denoted on the plot.

Figure 4.1 shows the strong relationship between exports and lobbying by export-intensive industries. Aside from the small sample size, the results do not account for the potential of reverse causality – increased lobbying may well increase exports. But this relationship is to be expected; lobbyists are unlikely to push for policies that do them no benefit. More revenue gained from exports is likely channeled into lobbying efforts in an effort to further increase export revenue.

Taken together, these empirical results strongly suggest that growth abroad increases revenue for firms in export-intensive industries. These firms are then able to increase employment, thereby creating voters that are more likely to support policies that are favorable to trade. Revenue increases are also associated with an increase in lobbying, which is likely an effort by exporters to gain more favorable policies.

This chapter has not independently tested the proposition that employees tend to mobilize on their employers' behalf. This is largely because a litany of studies, highlighted in

Figure 4.1: Lobbying Donations by Exporters as Proportion of Total Donations, 1998 – 2015



the literature review, already shows this is the case (Hertel-Fernandez, ming; Jensen et al., 2016; Margalit, 2011; Schlozman et al., 2012). For instance, in a representative survey of monetary policy preferences, Bearce and Tuxhorn (ming) find that individuals who are employed in firms that conduct much oversees business transactions opposed monetary policies that may reduce their firms' competitiveness. Presumably, if these respondents moved to a firm that conducted most of its business domestically, the respondents would have different monetary policy preferences. Much economic voting literature shows that individuals who lose their job are less likely to vote for the incumbent; those that remain employed are likely to support the incumbent (Achen and Bartels, 2016; Bartels, 2014; Jensen et al., 2016). Thus employees' economic policy preferences are intimately tied to

their firms' material interests.

Evidence suggests that, at least in this dimension, employees are likely to mobilize and vote with these preferences in mind. Given the plethora of studies showing that employees tend to have preferences in line with their employers, and that additional evidence on this subject would likely require an individual chapter, it is beyond the scope of this study to provide additional analysis on this relationship.

4.5 Conclusion

Although interest group preferences have long been studied in international political economy scholarship, few studies have directly analyzed the conditions under which these preferences are more or less likely to be turned into policy.[9] This is not only true for IPE scholarship, but also true across political science and public policy research (Dür and De Bièvre, 2007). This lack of attention is due, in no small part, to the difficulty of operationalizing terms such as power and influence. Although power is inherently difficult to measure, actors' preferences are meaningless if these actors lack the ability to turn their preferences into policy. Thus more attention must be paid to the power of domestic interest groups. This chapter begins to explore what factors shape domestic actors' ability to influence policy. By analyzing how international factors play a key role in shaping interest groups potential influence, this study also gives international elements a more central role in its analysis. Studies of international economic policy, especially those analyzing preferences, often ignore international factors and generally focus on domestic-level features (Oatley, 2011).

This chapter provides evidence that international factors, namely the performance of a state's trade markets, shape the ability of interest groups to influence policy. The

[9]This is not necessarily the case in analyses at the international level, where scholars have analyzed state power and influence in much greater detail. See (Andrews, 2006; Cohen, 2015).

empirical results show that economic growth in a state's export markets is associated with more revenue for exporters. This revenue boost is then associated with increased employment in export-intensive industries. Because employees are a source of political power, more employment likely helps firms gain favorable policies. The analysis of the United States also shows that increased revenues are associated with increased lobbying. Here, evidence suggests firms use revenues to directly seek to influence policymakers. Therefore, economic growth abroad provides internationally-oriented interest groups with a greater capability to influence policy through more employees and more lobbying.

This chapter further extends our understanding of how crises lead to change. The results suggest that growth abroad may tilt the balance of power in favor of those with internationally-oriented interests. Increased revenue and employment relative to those with domestically-oriented interests are likely to result in policies more favorable to exporters. It is unsurprising that if the domestic economy went into a deep recession we would observe exporters gain political influence. But if the domestic economy *and* foreign economies all went into recession, we may not see relative revenues shift nor may we observe employment shift from one segment of the economy to another. Here it is less likely that crises would lead to change. Finally, change may result absent any large shock – or a crisis. This is perhaps because influence generally shifts incrementally. Strong growth abroad may marginally increase exporters' revenue and employment profiles, thus resulting in change. This deeper analysis of international factors deepens our understanding of how policy change occurs.

This chapter also has important political implications. Politicians across the OECD are pushing against further integration into the global economy. With much of the developed world facing anemic economic growth, this chapter's analysis suggests that interest groups that favor more integration are losing resources to push for their interests. Under these conditions we would expect interests that favor a more closed economic

system to be gaining political influence vis-a-vis those that favor a more open system. With an avowed protectionist elected as US president and Britain voting to exit the European Union we are clearly seeing a decline in political influence of internationally-oriented interests. This chapter offers deeper insight into these contemporary political battles as well as prospects for the future shape of the global economic system.

4.6 First Stage of 2SLS

Table 4.2 uses two stage least squares, using GDP growth abroad and change in domestic real GDP to instrument for exports. The first stage results are in Table 4.4. Note that two dependent variables are measured in Table 4.2, the independent variables in the first four models are the same as those in the second four models. Therefore, only four first stage models are necessary. Furthermore, note that this table is nearly identical to Table 4.1, the only different is the use of *Union Density* as a control variable.

Table 4.4: First Stage Regression

	Dependent variable:							
	Exports Percent of GDP				Exports Percent Change			
	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
GDP Abroad	0.019***	0.018***	0.005**	0.0002	0.020***	0.019***	0.006**	0.001
	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)	(0.002)
GDP Per Capita (Log)	−0.141***	−0.118***	−0.030*	−0.022	−0.147***	−0.120***	−0.041**	−0.038**
	(0.020)	(0.021)	(0.016)	(0.017)	(0.021)	(0.022)	(0.016)	(0.017)
Inflation		0.0004**	0.0004***	0.001***		0.001***	0.001***	0.001**
		(0.0002)	(0.0001)	(0.0002)		(0.0003)	(0.0002)	(0.0004)
Imports (Log)			0.696***	0.792***			0.687***	0.793***
			(0.024)	(0.029)			(0.025)	(0.030)
Union Density				−0.003***				−0.003***
				(0.001)				(0.001)
Center Exec.				−0.025*				−0.008
				(0.015)				(0.015)
Right Exec.				−0.015**				−0.018**
				(0.008)				(0.008)
Undefined Exec.				−0.0001				−0.011
				(0.018)				(0.018)
Observations	1,045	992	982	891	1,015	965	955	869
R^2	0.561	0.558	0.760	0.772	0.581	0.584	0.767	0.781
Adjusted R^2	0.540	0.536	0.729	0.734	0.559	0.560	0.734	0.742
Note:								*p<0.1; **p<0.05; ***p<0.01

4.7 Robustness Check

In the first stage regression used to test Hypothesis 2, I hold constant domestic real GDP. But exports may be affected more by the rate of economic growth abroad relative to the rate of growth in the domestic economy rather than simply by the rate of growth abroad. As a robustness check, I reestimate the the models in Table 4.2 with a new instrumental variable, which is calculated by taking the difference between the trade weighted rate of economic growth abroad and the rate of domestic economic growth. The main results are unchanged.

Table 4.5: Employment as a Function of Revenue, Robustness Check

	Dependent variable:							
	Prop. Employed (Raw Proportion)				Prop. Employed (Pct. Change)			
	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)
Exports (IV)	0.063***	0.076***	0.799***	1.581***	0.072***	0.084***	0.418***	0.559***
	(0.017)	(0.021)	(0.258)	(0.490)	(0.019)	(0.024)	(0.128)	(0.172)
GDP Per Capita (Log)		−0.018**	−0.082	−0.060		−0.015*	−0.057	−0.046
		(0.009)	(0.064)	(0.113)		(0.009)	(0.035)	(0.043)
Imports (Log)			−0.521**	−0.926*			−0.279**	−0.348*
			(0.264)	(0.498)			(0.136)	(0.183)
Inflation			0.006**	0.007			0.0004	0.0001
			(0.003)	(0.006)			(0.001)	(0.002)
M2			0.0003	0.0003			0.0001	0.0001
			(0.0003)	(0.0005)			(0.0002)	(0.0002)
Union Density				0.011**				0.003**
				(0.005)				(0.002)
Center Exec.				0.053				0.008
				(0.049)				(0.020)
Right Exec.				−0.048*				−0.015
				(0.025)				(0.009)
Undefined Exec.				−0.154**				−0.043*
				(0.068)				(0.022)
Observations	322	322	259	246	296	296	240	228
R^2	0.812	0.806	0.200	0.076	0.802	0.793	0.447	0.332
Adjusted R^2	0.734	0.726	0.174	0.064	0.718	0.708	0.384	0.278

Note: *p<0.1; **p<0.05; ***p<0.01
Cluster robust standard errors in parentheses

Chapter 5

Conclusion

By placing international factors at the center of its analysis, this dissertation has sought to provide a deeper understanding of the domestic politics of fiscal policy. Chapter two argues that policymakers may consider how taxing and spending policies abroad may affect demand for goods and services at home. This may then lead to an equilibrium where states respond to economic recessions and recoveries with a smaller stimulus that may be required to bring an economy to a sustained recovery.

An analysis of the international effects of fiscal policy also provides insights to how policymakers may use fiscal policy to boost their reelection prospects. Chapter three provides evidence that when a state's export markets are performing well relative to the domestic economy, incumbents tend to enact more contractionary policies. The empirical analysis and case study provides evidence that incumbents may gain electorally from contractionary policies conditional on weak relative economic performance. This finding runs contrary to claims that fiscal policy does little to influence the outcomes of elections (Alesina et al., 1997; Arias and Stasavage, 2016).

Finally, Chapter four provides evidence that the state of a country's main export markets can affect the ability of pressure groups to influence policy. These shifts in

interest group influence over policy may be largely exogenous to domestic politics, which suggests that the sources of interest group influence are affected partially by factors that domestic policymakers have little ability to control.

Although chapter four does not directly analyze how interest groups influence fiscal policy, it is likely that internationally and domestically-oriented interest groups have divergent preferences toward fiscal policy (Frieden, 1991, 2014). For example, chapter three points out that a contractionary fiscal policy generally makes exports more competitive. Similarly, Chapter four shows that when a state's export markets are performing well, those with internationally-oriented preferences are likely to gain influence policy outputs. Therefore, when a state's export markets are performing well we would expect more contractionary policies through both the electoral incentives of policymakers as well as through interest group lobbying. Taken together, the findings in chapter four serve to reinforce those in chapter three.

One shortcoming of this project is that the data used to measure fiscal policy is at a high level of aggregation. But fiscal policy includes several dimensions. Expenditures, for instance, may range from infrastructure investment, expenditures for education and health care, and military spending, among others. These various dimensions likely have differing electoral consequences. Investments in human capital, for example, may not directly affect the economy in the short-term, where as tax cuts or increased infrastructure investment may have a more short-term effect on the economy. Future research should analyze these various dimensions of fiscal policy.

As this dissertation is being completed in December 2016, policymakers have been pushing for less integration with the global economy. Donald Trump's election in the United States and the vote in Britain to exit the European Union are emblematic of the push against global integration. Since the 2008 financial crisis the developed world has experienced meager economic growth. This dissertation suggests that these events

are related. As chapter four argues, weak growth abroad is likely to increase the policy influence of interest groups that would push against deeper integration into the global economy.

Much of this weak economic growth is likely the product of a premature austerity policies throughout the developed world before a robust recovery took place (Blyth, 2013). Chapter two shows that incentives stemming from economic integration may have led states to prematurely engage in contractionary policies, thus prolonging the weak recovery. Therefore, incentives that led states to prematurely engage in fiscal consolidation may have increased the likelihood that interests that favored less integration with the global economy would become more politically empowered.

As alluded to in Chapter 2, the weak response to the 2008 financial crisis is similar to a problem of public goods. If policymakers could have credibly committed to maintaining expansionary fiscal policies, a robust economic recovery may have been more likely to follow. This may have provided those with more internationally-oriented preferences a greater ability to influence policy. But it seems as though the reverse occurred.

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